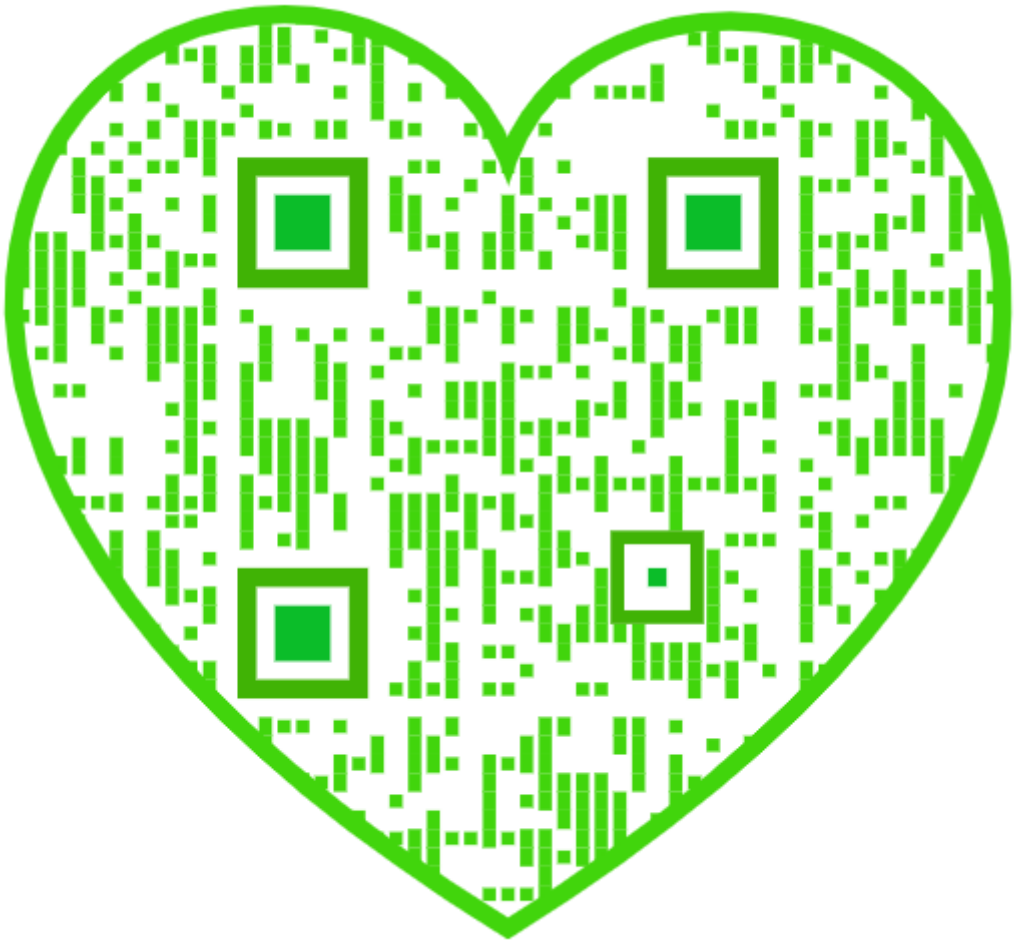

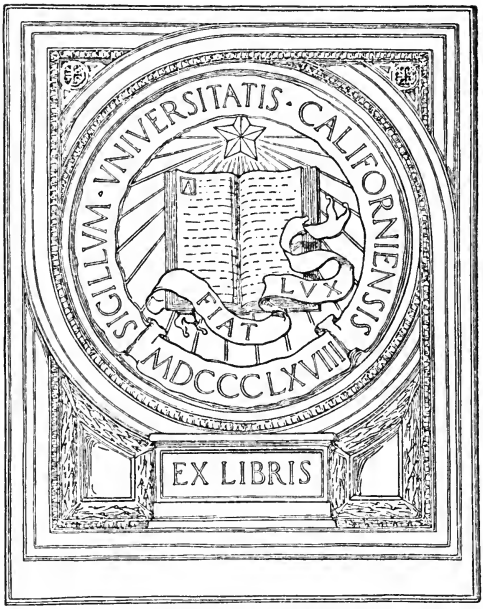
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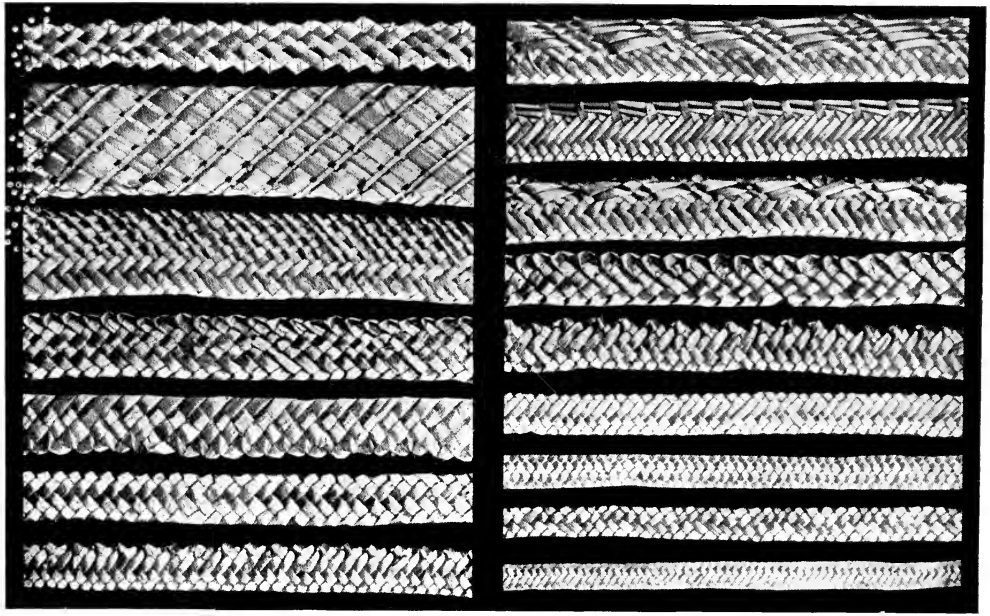

Chinese Straw Plaits

MERCHANDISE MANUAL SERIES

MILLINERY

BY

CHARLOTTE RANKIN AIKEN, B.A.
Formerly Educational Director, Lasalle and Koch,
Toledo, Ohio

NEW YORK
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This Series is Dedicated

to Mrs. Henry Ollesheimer, Miss Virginia Potter, and Miss Anne Morgan, who desiring to give greater opportunity for advancement to commercial employees and believing that all business efficiency must rest upon a solid foundation of training and education gave years of enthusiastic service to the testing of this belief.

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MERCHANDISE MANUAL SERIES

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EDITOR'S PREFACE

As "Department Store Merchandise Manuals" these books were originally written for salespeople and were designed to give them reliable information concerning the sources and manufacturing processes of the merchandise which they handle. When it was necessary to deal with scientific or historical material it was treated as simply and concretely as possible and the point of view taken was that of business rather than that of the school or laboratory. In this form they have proved their practical value not only to the department store salesperson but in the specialty shop. It has been pointed out, however, that the material has a wider scope than that of sales manuals alone.

As reference books, librarians will find the short, clear statements and full indexes invaluable.

As an encyclopædia of merchandise the series contains scientific information in a simple, compact form which makes it available for children and others to whom the subjects treated are unfamiliar.

As textbooks they are adapted for use in commercial schools, high schools, night schools, settlement classes, and by teachers of household arts and domestic science.

As source books for practical story-telling, kindergartners, primary and vacation school teachers will find in them an abundance of interesting material for short "true" stories on the various industries and crafts, the manufacture of household articles, such as pins and needles, as well as the making of pottery, glass, and steel. These manuals contain just the material often hunted for in vain by teachers and librarians.

As household helps and shopping guides the young housekeeper will find the manuals her best friends because they not only describe the manufacturing processes but tell her how to distinguish well-made articles of good materials from the inferior and badly made. They also tell her how to care for the clothing or household goods which she has bought.

For salespeople and storekeepers they supply the general and specific information about their merchandise which is indispensable to efficiency, yet very hard to gather from the scattered sources upon which they now depend.

These changes should enlarge the usefulness of the manuals without losing any of their specific value in the field of salesmanship.

The subjects of color and design are of great importance in the treatment of many kinds of merchandise. To avoid any confusion arising from varied

statements of principles the editor has put the material into a standardized form approved by the authors of the manuals in which these chapters appear.

We wish to express our grateful appreciation to the manufacturers and experts who have given us such valuable counsel and cordial co-operation.

BEULAH ELFRETH KENNARD.

AUTHOR'S PREFACE

In gathering the information for this manual the author found few publications dealing with the processes of hat-making in foreign countries, except the United States Government's report on "Philippine Hats." This is due to the zeal with which foreign producers and exporters have guarded the secrets of their industry, and also to the lack of any systematic investigation of the subject. The weaving of braids in distant countries has been carried on in the homes, and the art has been handed down from one generation to another; therefore the facts concerning it have been difficult to discover. Information as to the millinery manufactories in this country was more easily obtained, as the extensive and progressive establishments of the trade have shown a most generous co-operation.

The author is greatly indebted to the original researches of Miss B. Cannon, Educational Director, Wm. Filene Sons Company, Boston. Miss Cannon secured reports and information from United States consular officials in foreign countries and made a compilation of data on the subject. The author is also indebted to the kindness of the United States Government expert on commercial fibers; to the practical suggestions of Mr. M. B. Kreeger of the Kreeger Store, Inc., of New Or-

leans; to *The Dry Goods Economist,* and *The Millinery Trade Review* for certain information; also to R. H. Comey and Company, dyers and bleachers of straw braids, to Gage Brothers and Company, to Mrs. E. G. McClelland of *Woman's Wear,* and to the editor of the series for the preparation of Chapter XII. For illustrations thanks are due to the United States Department of Agriculture, The Philippine Bureau of Education, *The Millinery Trade Review, The Philippine Craftsman, The National Geographic Magazine,* and Robert M. McBride and Company.

This volume, with the exception of Chapters I and XVI, applies to the buying of hats, since the greater knowledge of the subject the purchaser possesses, the wiser will be her selections. Obviously, if she knows materials, straws, etc., she will buy with greater assurance. Thus the knowledge she may have gained by observation will be greatly increased by study. A knowledge of the colors that are becoming and of the lines which bring out the best features of the face, is essential in buying hats. Everyone has picked up miscellaneous information about hats, but the scientific study of them will no doubt be an aid to many. It is a pleasure also, to learn the romance of millinery, and to know how the peoples in the far corners of the earth toil for the adornment of our heads.

It is sincerely hoped that those who take up these

studies for use in the home, the store, or the school may find this book of some service for practical application to their needs.

CHARLOTTE RANKIN AIKEN.

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MILLINERY

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Chapter I

THE MILLINERY DEPARTMENT

Plan of Department

The construction and plan of a Millinery Department bear a close relation to the volume of sales, and have a vital effect upon the success of the department and of each salesperson in it. It is because certain arrangements and equipment have been found so practical and helpful in the selling of hats, that similarity prevails among the millinery sections of the best department stores of the country.

General Impression

The general appearance of a properly planned Millinery Department produces an impression of roominess. The extended floor space and multitude of mirrors enable a customer to view a hat from all sides

and from all distances, just as she would view it on the head of another woman on the street. A customer may examine many hats, make comparisons, and choose the one that suits her fancy. Unobstructed space suggests out-of-doors, where the hat is to be worn, and therefore is apt to make the possession of a new hat seem more desirable; also customers can be served more easily in a large open department.

Atmosphere

The atmosphere of a Millinery Department should always be one of dignified elegance and refined taste, in keeping with the character of the goods displayed. This has a favorable effect upon the patronage and sales. A background of quiet refinement is created by carefully chosen carpets of harmonious design and color, and beautiful woodwork, handsome fixtures, and proper lighting.

Stock Tables

In the Millinery Department of most large stores large tables are given prominent positions. These tables may be round, oval, square, or oblong; the oblong ones are perhaps more commonly used. Generally hats of the same price are placed on a table by themselves and arranged on standards of varying heights.

The untrimmed shapes are heaped upon tables that have rails around the edges. There are so many shapes just alike that one wonders why some are not put away in the deep drawers underneath these tables; but the heaping together of such a number of shapes makes the price appear more reasonable to the customer. This is desirable, because in untrimmed hats particularly it is their cheapness that appeals. The customer knows that articles cost less by the dozen and she is apt to reason that if she sees many similar hats, each one must be cheaper than if the design were more exclusive. People have learned to expect to find bargains displayed in this way. Moreover, the quantity, with its suggestion of freshness and variety of choice, produces the impression of an abundance of stock.

A desire for exclusiveness and for a hat different from anyone else's operates, of course, against the appeal to customers; for this reason untrimmed hats that can be diversified by trimming according to the customer's tastes usually sell very well in bargain lots, whereas hats that are already trimmed are not so easily sold in this way.

In the drawers below the tables are the reserve shapes. Tables for trimmed hats may or may not have drawers beneath for reserve stock and hats not on display.

In specialty shops the stock is generally kept in cases and deep drawers.

"Trying on" Tables

Small tables with chairs and hand mirrors are placed before large mirrors which face the seated customer at well-chosen points among the stock tables. It is better to have the large mirrors in three sections, as the customer can then see herself from all angles. If there are pillars in the department, they can be made to serve as supports for the large mirrors and small tables may also be placed back to back. It is one of the ways of making a customer comfortable and so disposed to purchase.

Display Cases

Around the sides of the room, hats on standards of various heights are displayed in large electric-lighted cases with movable glass doors. The floor of these cases is about table height with large mirrors at the back and with deep drawers for reserve stock underneath. Often only one drawer, two or more feet deep, is constructed, instead of two drawers both of which might be too shallow. Hats that are not easily damaged are kept there in piles several hats deep.

Most departments arrange the hats so that those of one price are kept together in one case, the first

case in the row containing the cheapest hats and so on up; or if there are many hats at one price a whole group of cases may be devoted to them. There may be a case filled with ornaments which are too large to be adequately displayed in the counter cases. When customers are not numerous the glass doors are kept closed to protect the contents from dust.

Counter Cases

Counter cases with tops and shelves of glass are placed in some convenient section near the untrimmed hats, and are used for displaying ornaments and trimmings. Flowers, wreaths, feathers, tips, wings, ribbons, pins, and various fancy ornaments are thus attractively shown. Table displays of ornaments are not unusual.

Arrangement of Stock

Although the arrangement of stock on tables and in cases is usually by price, color schemes may be beautifully worked out by featuring some popular shade in a whole group of hats. A few stores arrange the stock almost entirely by color, but to do this the department must be very large. While the main arrangement is planned by the buyer or manager, details are generally left to the salespeople who can do a great deal to make the display effective.

In all departments there are certain prominently located tables, cases, and counters which people must pass frequently on the way to other departments. Such counters may be made extremely useful for testing out new goods or novelties to see whether a demand can be created; they may also be used to exhibit slow-moving merchandise which perhaps the salespeople have neglected to bring forward because of the fact that they have become too accustomed to it.

"French Rooms"

A number of small separate rooms designed to aid in the sale of the most expensive hats are generally found opening from the main department. They are planned to help the sale of high-priced hats in a number of ways. They create an atmosphere of exclusiveness and distinction. The quiet seclusion gives the salesperson an advantage, as well as implying a special attention to the customer.

Salesrooms of this nature are richly furnished and generally are decorated in light colors, so as to afford a more delicate background for the exquisite hats shown in them. Since it is desirable to give every advantage to customers and salespeople in the disposal of high-priced merchandise, the "special" rooms usually have daylight for selecting and matching colors.

Such a room is quite often distinguished by some special name, such as the "French Room." Dark French rooms are sometimes very effective. Customers have said that in such rooms any hat looked becoming.

Stock and Workrooms

It is convenient to have the stock-room and workroom of a Millinery Department situated as near the selling floor as possible, if not directly adjoining it. There the trimmers work at large tables by good daylight, altering, retrimming, and making hats, while full supplies of hat braids, ribbons, velvet, etc., are in drawers, boxes, or on shelves. There is a special checker, who gives part or all of her time to describing in a special record every hat that goes out of the workroom. A good workroom has much to do with the satisfaction of customers and the success of the whole department.

Chapter II

HAT STRAW AND STRAW BRAIDS

Most Important Material

Hats are made from many materials, of which true straw, woven into braid, is the most important. Until 1840, when looms were first adapted to straw-braiding, the different braids were made entirely by hand, but as modern industrial methods have been developed, more and more of the braiding is done by machinery, and only those countries where manual labor is cheap continue the hand-braiding, which was once a profitable industry.

Italian Straw Best

Straw braid is produced in many countries, but the United States draws chiefly from China, Japan, and Italy. Wheat and rye straw for hats was grown in Massachusetts in the early part of the nineteenth century, but the industry was of slight importance.

The straw from the different countries varies in quality. Probably the finest is grown in northern Italy, where the industry has reached its highest de-

velopment. The superiority of the Italian straw is due to climatic and soil conditions and to the fact that the wheat is raised largely for making hats and not for food, whereas in China wheat is raised to serve for both purposes. The method of sowing and cutting wheat raised for straw only, differs greatly from the method used when the grain is intended for food. The latter method of cultivation produces an inferior grade and damages the straw for hat-making.

Climate and Soil

Even in Italy only certain areas are suitable in soil and climate for the production of hat straw. The seeds are sown very thickly on rich, light soil, on arid and rather high land. The stalks are very long and grow so thickly that they touch, thus supporting and protecting one another. This method of planting produces a fine, tall straw. If the weather is too wet, the straws will spot and rust, while if the climate is very dry and hot the straws become brittle. Straws will spot also when too ripe. The wheat seed is usually sown in March, and the crop is cut when the grain in the ear is only half developed.

Gathering and Bleaching

The straw is pulled up by the roots by hand, dried in the sun, and then made into small sheaves.

It must be pulled by hand so that the ends of the straw may be kept closed throughout the process of curing and bleaching to retain the pitch which would escape if the crop were cut with a scythe or by machine power.

Formerly, and even now to some extent, the bundles were allowed to lie in the sun during the day and in the dews by night, until after several days the straw became cured and bleached, but it is now generally cured under cover. If the bleaching is not done by the dew and sunshine process, the straw is bleached in sulphur fumes in a closed chest or by other chemical processes.

Sorting

The worker takes the sheaf of wheat between his knees and draws the straw out by handfuls. The wheat ears are cut off first; the top of the stalk — which is called a pipe because it is hollow — is then cut away so that only the lower nine inches are kept for plaiting. These nine-inch sections are sorted into sizes by letting them fall through several sieves with holes of different sizes, or through openings in a wire frame. Those which are discolored or spotted are separated from the rest and must be dyed, either in the pipe or in the plait. Bundles about four inches in diameter, containing sixty straws each, are made, tied,

and sold for five or six lire per hundred bundles. (A lira is a silver coin worth about eighteen or nineteen cents.)

Centers of the Plaiting Industry

Tuscany in northern Italy has been the center of the plaiting industry for hundreds of years. In the eighteenth century the trade was very extensive, but in 1826 England began to manufacture her own braids and in 1875 competition began with Switzerland, Japan, and China. Although the industry in Italy has declined in relative volume, however, the Italian braid retains its superiority.

In Florence and in the regions surrounding the city more than 90,000 people make their living plaiting straw. In some villages the entire population, men, women and children, are employed. With flying fingers they work even while they walk along the street, carrying the straw wrapped in a damp cloth to keep it pliable and inserting new straws regularly without looking at the work.

In Italy, as in every country where hats are made, the work of making braids is carried on largely in the homes of the people, although much of it is done under the direction of men connected with large companies. Throughout the whole world, it may be noted, straw plaiting is done chiefly by women and children, al-

though it is occasionally done by men, and men do the rougher work of gathering the raw material.

Method of Plaiting

The plaiter splits each pipe of straw into from four to nine pieces, except the straw for Tuscan braid which is woven whole. A small instrument called a "splitter" with a sharp point to go into the end of the straw and with knife-edge cutters radiating from it, is inserted at one end of the straw pipe. These cutters divide the pipe into even pieces.

The plaiter begins her braid with the required number of straws, which are not, however, of equal length. When she approaches the end of the shortest straw she inserts another single straw and continues to add new straws as they are needed. This leaves a fringe on the inside of the plait which is later cut away by scissors. The straw is held under the left arm of the plaiter and each straw is passed between the lips to moisten it before it is inserted, unless there is some other method of keeping it damp, as for instance wrapping it in a moist cloth. Each plaiter who uses the first method carries two or three straws in her mouth, ready for use. Seven is the average number of straws used, although the number ranges from four to fourteen. The varieties of plait are endless. Florentine dealers have exhibited more than 7,000 different pat-

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Courtesy of "Millinery Trade Review"

Figure 1. Braiding Straw

terns. An old couplet describes the method of weaving:

"Over one and under two,
Pull it tight and that will do."

The plaiters get wretchedly small pay for this expert work from the middlemen to whom they usually sell their product. By working all day a woman can plait perhaps twenty yards of seven-end braid, which can be bought in the United States at less than a cent a yard, after middlemen and transportation charges are all paid.

Figure 1 shows natives engaged in braiding straw.

Chapter III

HAT STRAW AND STRAW BRAIDS
(Continued)

Varieties

There are many varieties of straw braid and the number seems to be increasing every year. Some braids have been made by hand in the present weave for many centuries. Others are the product of machines.

Straw braids are classed as:

Hand-made	*Machine-made*
Tuscan	Chip
Leghorn	Yedda
Milan	Ramie
Patent Milan	Horsehair
Japan Split	Horsehair Imitation
China Split	Crêpe Band
Liséré	Pyroxylin
Swiss Straw	Chrysanthemum Braid
Hemp	Specialties:
Milan Hemp	Visca
Imitation Hemp	Caterpillar, etc.

Tuscan Braid

Tuscan plaits and Leghorn hats are made from Tuscan straw which varies greatly in quality and value. The Tuscan braid lends itself to fancy weaves with much grace, and pretty "lace Tuscan" hats are frequently seen.

The braid is used in wide fancy borders or in a hat apparently woven in one piece by hand. A strong twist of two straws may be made and used as a single strand. Several lace Tuscan hats in various colors were recently shown, resembling in pattern the Battenberg lace which was popular a number of years ago as "fancy work."

The Tuscan is a strong, durable braid, naturally of a rich cream color, tending to a tan yellow. The straw, which is very fine, is seldom split as other straws are, but is used whole. Other straws, such as the Panama type, which sometimes give this same effect, are split straws specially prepared. (See Chapter IV for information on Panama hats.)

The upper part of the stalk is yellow at first. In addition to the bleaching of the raw straw by the sun, several smokings with sulphur are given to the straw, the plait, and lastly to the hat to whiten it. The lower part of the straw which was covered by the slender leaf is not quite so yellow, but the darker part is known as the Tuscan.

Florence Tuscan Braid

A flat, narrow, plain braid known in the United States as Florence Tuscan is made of seven, eleven, thirteen, or even more straws. It is woven with quick jerks of the hand, and is either sewed together by hand at the edges or sewed by machine with the edges lapping over each other, the number of rows or laps to the inch indicating the fineness of the braid.

As Tuscan plaits tend to a yellow color in spite of the bleaching, it is very important for the weaver to choose straws of the same shade and blend the plaits carefully. The finest work on this straw braid, accordingly, tries the eyes severely, so that the plaiter can work at it only two or three hours a day. These very fine plaits, of course, are uncommon. Florence Tuscan is usually imported in plaits, and sewed into hats in this country.

Leghorn Hats

Leghorn hats, so called because they were exported from Leghorn, a port in Tuscany, were invented about 1840. There is a standard demand for these attractive and durable hats. They are naturally of a yellow or cream color. The close, strong weave and the quality of the straw give the hat strength and stiffness, yet allow it to bend slightly in a wind. This is

an excellent feature in a shade hat, the common style of the Leghorn.

Leghorn hats are made in the region around Florence, usually of Tuscan straw, from braids known as "paglia," "florentina," or "nostrale." These braids are generally of thirteen strands but sometimes of five or of seven. Pedal Leghorn is an inferior grade. A very cheap, smooth, extremely coarse hat is called "Mountain Leghorn."

Plaiting Leghorn

Women and children may be seen on the streets of the Italian villages plaiting braid for these hats. After a few yards are made the braid is sewn together into the hat shape or made into placques and cones which are afterwards blocked into the shapes desired. A coarse, twisted cotton thread is used, which is not visible in the finished hat as the edges are fitted together so that the hat appears to be woven in one piece. In examining a Leghorn the places where the threads run can be detected by a slight ridge in the upper surface of the hat. The thread is pulled tight so that the edges of the braids interlock firmly. The little humps along the edges which fit so closely are called the "eyes" of the braid. On the under side of the Leghorn the regularity with which new straws were inserted in the braid may also be observed.

Milan Braid

Milan braid of good quality makes a beautiful and durable article which is usually popular as a spring hat in dark colors and as a summer hat in creamy white. The hat has an attractive gloss and while somewhat flexible has considerable stiffness. Handsome hats of Milan braid are sometimes made double with different colored brims sewn together. The hat is called Milan after the city of Italy near which most of these braids are produced.

Milan or pedal braid, as it is sometimes called, is made of seven strands, but a coarser braid of the same straw is five-end or five-strand Milan.

The straw used is coarse, although of excellent quality. It is called pedal straw, and is used in many fancy plaits besides in Milan braid. One authority says that the lower (and therefore coarser) part of the upper joint of the straw is the pedal straw, while the upper part is the Tuscan. Its treatment is similar to that of other straw.

The best Milan is hand-blocked and hand-sewed, but in the United States much of it is sewed on lock stitch power sewing-machines because this method is cheaper. The hats are sized when they are blocked.

Patent Milan

An imitation of a much coarser nature, called patent

Milan, is grown and plaited in China. It is freely used in cheap hats. Even the coarsest Italian Milan is of a better grade than the finest quality made in China.

Split Straw

Split straw is the straw obtained by the splitting process already described. Two split straws are laid together, the bright sides out, and plaited in the usual way. English seven-end or "cord" is made in this way.

Many hats of "split Jap" braid are manufactured in Japan and many others are made up in the United States from imported braid. Much seven-end split braid is made in China where the straws are woven singly. In a hat of Chinese split straw the shiny and dull sides of the straw may easily be seen if they are closely examined.

Liséré

The word liséré is from a French word meaning binding, and this true straw braid is often called a binding braid. It is a very shiny, stiff, narrow braid, made generally from split straw, but sometimes from whole straw, and imported from Switzerland, Belgium, China, and Japan. A three-end liséré from Japan is used extensively.

Oriental Braids

Straw braid manufacture has developed rapidly in China in recent years, especially in the Province of Shantung in northern China. The chief port of trade is Tsing-tau. Wheat straw is used, but is less carefully prepared than in Italy. Barley and rice straw also are utilized.

The rice of Japan yields a stronger fiber than the rice grown in the United States, but it is not equal to wheat straw for hat-making purposes.

Braid-Making in China

Braid-making in China is done by the natives in their homes, under the direction of agents of large exporting houses. It is this labor that has discouraged the industry in other countries, for the people can live so cheaply that they can afford to work for little. Most of the plaiting is done in the interior of the country and must be taken overland for hundreds of miles to the seaports, where it is tied up into pieces, sorted, and baled, 240 pieces to the bale. One woman has to work at least two years to make enough plait for a bale, which can be bought in the United States after all transportation charges, middlemen, etc., are paid, at prices varying from $20 to $40 a bale. This makes the average wage a few cents a day. Much braid is sent to England for bleaching and manufac-

ture and later reaches the United States. Luton is the center of the straw-bleaching industry in England.

Chinese Straw

Because the Chinese wheat is allowed to grow till it is fully ripe the straw is brittle, but nevertheless it is used for braiding. Two feet of stem between the joints in the middle of the stalk is cut into lengths. The resulting straws are four or five inches long. These are split into from two to seven pieces. They are moistened to make them pliable, and woven into braid one-eighth to one-half inch wide in odd lengths of from thirty to one hundred and twenty yards. The Chinese bleach this braid with sulphur fumes. They are clever in all imitations and are more skilful than any other nation in their methods of doing up braids and hats in packages.

The frontispiece shows several varieties of Chinese straw plaits.

Swiss Straw

The straw for Swiss braids is imported from Italy and most of it is made into men's hats. The best market for Swiss straw goods is France, where the braids are manufactured into hats.

Swiss Milan hemp and plain hemp are today as fine as any in quality. Also the best broad braids, known principally as silk straw, are manufactured there.

The industry is old. The peasants of the Canton of Aargau who carry it on have inherited their skill for generations. Before artificial silk and pyroxylin were invented, all fine silk straw braids came from Switzerland. This country finds the competition of Italy and Japan hard to meet and is able to hold its foreign trade in this line, not so much by the production of staple goods, as by specialties and fancy braids for women's hats.

Most of the best grades are made in the homes of the people, but the hand-work is limited to real straw; artificial or imitation braids are made in the factories.

Hemp

Hemp is not a true straw but like many other fibers it is classed as a straw braid. There are several varieties of hemp, and the plant that yields the fiber for hat-making must not be confused with the other and coarser sorts, such as the Sisal hemp, from which only ropes and cordage are made.

Manila hemp, a species of banana, from the finest fiber of which the most delicate laces, slippers, and other articles can be made, is the source of the material for hats; it is found growing naturally in only one place, the Philippines. Another name used in those islands for Manila hemp is "abaca." In the trade abaca braids are usually known as "tagal

braids" or "tagals." These are the only hat braids exported in quantity from the Philippines. Most hats made by the islanders are made in one piece.

Hemp Hats

Hemp hats have been very popular and the probability that they will remain in favor is great, therefore it is well to consider them in detail. Some of the reasons for their popularity are:

1. The ease with which the fiber dyes and retains the dye.
2. The delicate colors obtained in dyeing.
3. Strength and durability.
4. Resistance to moisture.
5. Light weight.
6. Natural stiffness together with pliability.
7. Attractive gloss.

Hemp-Weaving Industry

In the Philippines the industry of hemp-weaving existed before the occupation by Spain in the sixteenth century. In many regions the plant grew wild. The sides of hills of volcanic origin are well suited to its growth, and fertile, well-drained soil, damp air, and protection from too much sun and wind are necessary.

Abaca is cut near to the roots before flowering (see

Figure 2), the leaves and stalks are split open lengthwise, and the strips obtained from them dried in the shade for several days. The fiber is taken in strips from the petiole, or stalk of the leaf of the plant. A large knife is used to separate pulp and water from the strips, the strip being pulled between the knife blade and a block of wood. It is important to remove all of the pulp, for if any remains it darkens the fiber. The hard outer fiber is used for cordage and the inner for hat braid. Two men can cut and scrape about twenty-five pounds of fiber in a day.

The different grades of abaca are carefully sorted into five or six classes. Fibers of the same quality are tied together by the rapid fingers of the weaver in a long strand with firm, small knots. No tying machine can make so good a knot. If parts of the fiber are too fine, a piece may be doubled and tied. Tying becomes automatic so that an expert tyer can almost tie in the dark. The women's income from this work is often in addition to their agricultural work, so that their prosperity is great when compared, for example, with that of the Chinese. Hanks or skeins of Manila hemp are exported in this knotted form for manufacture into various articles.

Before Japan gained first place by inventing cheap machinery for braiding, Switzerland, France, and Italy imported knotted hemp in large quantities. The

Courtesy of U. S. Dept. of Agriculture

Figure 2. Cutting Hemp by Hand

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finest grades come from Italy. A great deal of fiber is sent loose from the Philippines to Japan to be manufactured; that is, sorted, tied, and woven into braid largely by machinery.

Philippine Factories

Several factories have been started in the Philippines. Machines make braids of various widths, though usually of thirteen strands with two or three fibers to a strand. (See Figure 3.) Since there is no import duty from the Philippines to the United States and the duty averages fifteen per cent elsewhere, the trade between the islands and the United States tends to increase.

In 1910 machinery for making braid was introduced, but most hats are still made by hand. The Bureau of Education is promoting this industry in the schools and in communities; and this helps the people greatly since it enables them to spend their time to greater advantage and at the same time earn more money.

Milan Hemp

A very popular braid is known as Milan hemp. This is simply a hemp braid in the Milan weave of seven ends. Large quantities of both Milan hemp and plain hemp braid are exported from Japan, Italy,

and Switzerland, the latter producing the best. The dyeing is better in the Swiss straw; the Japanese are not able to obtain so clear a color.

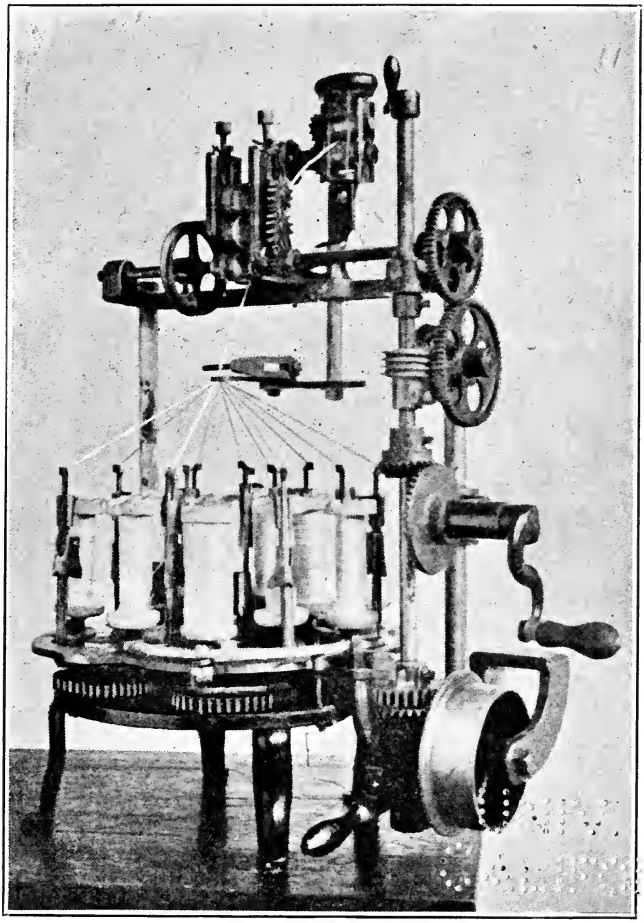
Imitation. Hemp

A German imitation of hemp is made of cotton tape. It is extremely cheap, but is too heavy for a comfortable straw hat and is not very satisfactory.

Machine-Made Braids

In 1840 looms were adapted to straw-weaving and for the first time braid was woven by machinery. Machine-made braids are rapidly increasing in number and seem destined to supplant hand-woven braids almost entirely. Factories in every country demonstrate this fact. There are a number of large concerns operating in the United States, and the varieties of machinery and materials used are endless. One large factory in Philadelphia employs almost every kind of machinery used in textile branches, weaving, spinning, braiding, knitting, embroidery, etc. It utilizes many kinds of materials, all kinds and sizes of cotton fiber — soft, glazed, and mercerized — various kinds of wool and mohair, silk of different grades, artificial silk, pyroxylin, tuscan cord, hemp, ramie, art luster, etc.

It is difficult to classify all braids as either hand- or machine-made, since so many straws and fibers are



Courtesy of "The Philippine Craftsman"

Figure 3. Thirteen-Spool Braiding Machine

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made up in both ways. The following is a description of some of the more important machine-made braids. Few of the fibers mentioned, however, are found in hand-made braids.

Chip

Chip braid is the only wood braid in general use. A large number of willow chip hats are made in northern Italy in the Modena province. The willows used there grow in the valley of the Po River. The Japanese have been making this braid, the chip straw from the trees of Japan being very white. White pine and Lombardy poplar, and also the English willow and English native poplar, are used to make white chip hats. In Switzerland wood-chip and silk are braided together. Chip is made in three-, five-, and seven-end braids.

The young tree is split into sections and planed smooth. Another special plane of knife blades is then drawn lengthwise down the boards, scoring long, fine, narrow cuts, but without removing any of the material. A smooth plane takes these fine strips off, and a thin chip straw results. Sometimes the wood is pounded and beaten in the process. For bleaching, the material is washed in acids and in alkalies.

The chip hat is light in weight, smooth, inexpensive, and has a soft, dull finish. Bending is apt to damage

it, and in general it is more easily destroyed than some other hats. In recent years hemp has largely taken the place of the finest chip hats, so that only the cheaper grades are generally sold now. In the eighties chip hats were very fashionable for summer wear.

Yedda

Yedda braid was first produced in Italy, but the Japanese have made an imitation which, while inferior to the Italian article, is so much cheaper that the Japanese handle the greater part of the trade. Yedda is a tall grass grown in Italy, Japan, and the Philippines, and from its fiber a light, delicate hat, with a coarse, loose weave is made. Most yedda braid is woven by machinery, but some of the fancy yeddas are woven by hand.

Ramie

A number of braids, usually loose and coarse, are made from the fiber of the ramie, a kind of non-stinging nettle which somewhat resembles flax. The fiber is bleached, dyed, and woven by machinery. It is called " China grass " because it was originally woven in China, but now it is obtained from China, Japan, the Philippines, Egypt, the West and East Indies, and southern countries. The best is grown near the equa-

tor, in a hot, moist climate and rich, damp soil, as frost kills the roots. It is manufactured chiefly in Germany, France, England, Switzerland, and the United States.

Ramie fiber, which is obtained from the upright stem, is long, glossy, silky, and very strong; it is stronger than hemp, has more stiffness than flax, and is almost as glossy as silk. Beautiful, fine cloth has long been made from it, especially in China, but the process of separating the fibers from the stem is different when it is to be used for braid.

The fibers are removed from the stems by hand or by machinery. Either process is costly if done properly because of the difficulty of separating the fibers, and of getting rid of the gummy substance which holds them together. The degumming process consists of boiling the strips of ramie in diluted soda, then bleaching them with a powder, and washing them in diluted acid. The best part of the carded and combed fiber, called in the factory the "combed tops," about four feet in length, is drawn out by drawing frames into a fine sliver or cord, put through a bath to make the fibers adhere together, and then treated to preserve the gloss. After this the fibers are twisted or made into braid.

Ramie is very durable and is not affected by water or moisture. It could be grown in the southern part

of the United States but the cost is too great to make the industry profitable. The ordinary nettle is sometimes used as a substitute for ramie.

Horsehair

Hair from the manes and tails of horses is made into braids in a number of countries, but perhaps the best are manufactured in Switzerland, largely by machinery. The best horsehair is obtained in South America. Horsehair also comes from Siberia, China, and Australia.

In one form this braid is stiff, light, glossy, and resembles open lace-work. It is used especially in dressy hats and in those made partly of other materials. It is also woven in a plain close style somewhat resembling hemp, but it may be easily distinguished by the sharp little ends of hair which are felt when the hand is passed over the hat.

Pyroxylin

The popularity of horsehair braid led to its imitation in an artificial silk product, known as pyroxylin (see manuals for the "Silk Department" and the "Notion Department").

Pyroxylin has been manufactured successfully for only a few years and experiments are still being made for improving the fiber. When the process first began

to be used the fiber melted if it became wet; even now it breaks easily when damp.

It is easy to tell the difference between this fiber and horsehair, for the imitation is not quite so stiff, nor so perfectly rounded as hair, which perhaps causes the slight difference in the gloss. Both are light and flexible, but pyroxylin is not so elastic when bent and released as the horsehair is. Another way of testing is to burn a small quantity of each braid. Burning hair has a characteristic odor, which pyroxylin does not have.

The artificial fiber can be made up into various forms, from an imitation of light horsehair braid to a heavy straw. Every large manufacturing country is paying some attention to this product.

Chrysanthemum Braid

One of the many novelty braids made of artificial silk is chrysanthemum braid. Strong cotton thread stitching holds in place the stiff, glossy silk fibers which somewhat resemble tiny chrysanthemum petals. It is soft, light, and attractive, but not especially durable.

Chapter IV

STRAW HAT-MAKING

Hand-Made Hats

Until the last few centuries or until hat-making machinery was invented, all straw hats and braids were made by hand. Today they are made by hand only where labor is cheap, as in Japan, China, Italy, the Philippines, and Central and South America. The best examples come from Panama and the surrounding country, and from Japan, China, and the Philippines. The word "straw" is used here in its broadest meaning, as most people use it to include all hats made of straw, chip, grasses, palms, etc. Hats made in one piece are called "body" hats.

Body hats are made entirely by hand. They are easily recognized, for a machine will plait only a straight braid and cannot weave circularly from the apex of the crown to the edge of the brim.

Figure 4 shows natives weaving hats by hand.

Panama Hats

The Panama hat is deservedly popular. It never goes entirely out of style. Its strength, lightness, flex-

From "Bulletin" of Philippine Bureau of Education

Figure 4. Weaving a Hat

ibility, clear cream-white color, and comfortable fit recommend it highly to customers. It can stand very hard wear, though it needs the same care as any other vegetable fiber. Usually the trimming is simple, a ribbon or scarf making it appropriate for wear as a sport hat.

Panama hats may be classified as genuine, and imitation:

Genuine Panama
Japanese Imitations
  Adamba
  Toyo
  Formosa

Location of Industry

While few Panama hats are made in Panama, it is a distributing center for them, which accounts for the name. Central and South American countries produce many, especially Colombia, Venezuela, and Guiana. The high-grade hats come largely from Ecuador and Peru. There has been a great increase in their use in late years. For centuries the industry was carried on by the Indians of Central America. Now it is the chief occupation of remote settlements.

In the countries where it is made the Panama hat is called jipi-japa, the name of a city concerned in the trade.

Gathering the Raw Material

The natives gather the leaves of the Panama hat palm, which is a screw palm growing wild in large quantities on low-lying wet land. Only the young, tender, unspread fan-shaped leaves are used. Care is taken not to injure the growing center of the palm, from which other crops may be obtained.

When the young, stiff, perfect leaves are secured, they are dampened, split into shreds with the fingers, or rarely with instruments, and the veins and the ribs of the plant are removed. The strips are not fully separated but are left at the base of the leaf. These shredded leaves are called " cogollo " in the trade.

Toughening and Bleaching

Large earthenware jars about four feet deep are filled with water, to which the juice of five or six lemons is added. In these jars the leaves are soaked from six to ten days. This makes them pliable and removes the sap and resin. Sometimes the leaves are steeped in boiling water. They are then bleached in the sun for three or four days, or until they become a cream white. Panama hats which are bleached by this natural method — the best one — are never of a pure or dead white. The sorted strips are then made up and sold in bunches weighing two pounds.

Plaiting by the Natives

The hats are made in the villages by families or by groups of acquaintances who gather for the purpose. There are all grades of skill. The children use the poorer straw and each child can make two of the coarser hats in one day. A few of the adults who have gained a reputation as the most expert weavers of the village make the very fine hats that require several months of labor and great skill. These were formerly sold in Europe or in South America for about $150. A hat of this kind can be folded into the size of a watch-case. Most of the hats which are sold in America for $5 to $10 take two or three days in making.

Process of Making

A wooden block of the required shape is placed between or on the knees of the worker. The plaiting starts from the top of the crown, going around in circular form. There are a number of different methods of weaving. The weavers' sense of touch is very delicate and their sight is good. They are careful not to break the strands, and must have great patience. Moisture keeps the material flexible, therefore the part of the hat that is being worked upon is kept wet. Only rarely the hat is woven under water, as has sometimes been said. The plaiter of the Panama hat works

from five to seven hours a day, in the morning and evening or at night, when the atmosphere is moist. If the hat is woven in the middle of the day, when it is hot and dry, the straw becomes brittle and breaks easily; the result is an inferior hat. The rainy season is the best for weaving.

Finishing

After a hat has been woven in a single piece and the edge finished, it is washed and again put on the block, where it is beaten with a wooden hammer and ironed carefully to make it smooth. It is then finished and ready for shipping. To prevent moulding, dry, powdered sulphur is sprinkled between the hats in packing. They are easily sold, Cuba and Central America being good markets. When the hats are received here, manufacturers usually bleach, reblock, and finish them.

Method of Cleaning

It is often well to tell a customer facts about the care of a hat, especially the Panama. The bleaching of hats with oxalic acid which is customary in this country to make them pure white, is the worst possible treatment for them. Such bleaching agents cause the fiber to deteriorate and greatly impair its durability. When soiled the hat should be washed with a pure soap

and warm water. Some soaps are injurious, but white soap is good. To restore the shape it may be dried on a block or stuffed with stiff paper. Lime, lemon juice, and sulphur assist the natural bleaching by the sun.

Tests for Quality

To prove that a Panama is of good quality, hold it up to the light to see if there are any knots or patched places. Sometimes strands have been broken in the making and additional ones woven in. This spoils the texture. It is not apparent at first, but after being worn the ends are apt to fray out. It is hard to tell split straw, which is much inferior to unsplit straw, as it is woven with such skill that only keen observation will detect it.

Another test of quality is the lack of artificial stiffening. The straw is stiff enough naturally. Hats of rather ordinary grade are sized with a thin gum and polished slightly. This is done as a separate business in the countries that ship the Panamas, and sometimes by manufacturers here.

Imitation Panamas

Japan has imitated the appearance and weave of the Panama hat. Among these imitations three kinds, named for the provinces where they are produced, are generally sold today. The finest is the Adamba Panama, which retails for $2.50 to $10.

The Toyo is next in quality, selling from $1.50 to $6. It was introduced into the United States in 1914 and has steadily increased in popularity. The raw material is a sort of tough, thin, fibrous paper, folded or crushed from about a half inch in width to the width of the straw. This Panama will not crack when bent nor be spoiled by dirt or water, as cleaning and reblocking restore it to its former condition.

The least expensive, the Formosa, sells from $1 to $5 and may be distinguished by faint spots that mar the pure white quality. It is also made of paper.

Wenchow

A Chinese body hat, called the Wenchow, is made from a strong, stiff grass, with an over-and-under weave, which in cloth making is called a simple or tabby weave. It resembles close square mesh netting. Like the Panama it is plaited by hand, in one piece. It may be embroidered easily and effectively with colored yarns, and may be dyed any color.

Philippine Hats

In the Philippine Islands many varieties of hats are made by hand, some of one piece and some of sewn braid.

The most important varieties of these hats are as follows:

Bamboo
Buri
Kalasio
Buntal
Pandan

In certain sections of the islands the natives formerly worked upon material which was rare in their neighborhood, while they neglected an abundance of other material that was close at hand, but the United States Government is now teaching them better methods.

The raw material is obtained mostly from bamboo and various palms. As in other countries, the time of day when the weaving is done is an important consideration, for during the heat of the day the straw will become brittle and crack. In one section weaving is done in shallow wells, where the weaver sits upon a low platform.

Two weaves are used. The "close" weave is adaptable to straws which are apt to crack if bent. This method, however, produces greater stiffness than the other method, which is simply an "open" or "over-and-under" weave, like a darn or the weave of burlap.

Bamboo Hats

Many bamboo hats are worn in the United States by both men and women. Some are known as Java or

Manila hats. The raw material goes through many processes which, although simple, take considerable time before the perfect, even straw is obtained.

In the fall the bamboo is gathered and the tall stalks are dried in the shade for several days. From ten to twenty of the middle sections of each stalk are then cut at the joints or nodes. The sections at the bottom where the nodes are nearer together, produce short straw and those at the top yield weak material.

The sections chosen are split from the center into several pieces lengthwise, and each piece is scraped on the inside, for the inner material is too weak and coarse to be used. The pieces thus obtained are about one-eighth of the original thickness, and they are split into five or six thin layers, not counting the green outer skin which is discarded. The layers next to the outer skin are the darkest, finest, and strongest. All are boiled in water for half an hour to toughen and partly bleach them, and are then bleached in the sun. The women sort them and they are sold in bundles in the markets or directly to the weavers.

Weaving Bamboo

The weavers, who are mostly women, finish preparing the straw. First, layers of bamboo of the same quality are chosen and split into narrow strips with an awl. By making a fringe of straws at one end of the

piece of bamboo and running the awl over and under these, the awl splits the whole into straw when the piece is pulled. These straws are somewhat uneven in width and thickness and hence must be shaved off in a simple machine which is made by the weaver. Weaving is easy because the straw is flexible. If water is used to keep the straw soft, the hat becomes yellow.

The close weave has to be used with bamboo and helps give it stiffness. The women become so expert with their fingers that they can almost weave in their sleep. The length of time consumed in making the various grades of bamboo hats corresponds to that spent on Panamas, several hours for the coarsest and several months for the finest.

Double Hats

Most bamboo hats are made double to give sufficient strength and stiffness. The outer hat is finer than the inner one. Finishing the brim by joining the edges is expert work and is generally done by special workers. The under brim is trimmed somewhat smaller than the outer, and the straws of the outer hat are turned back and under and woven into the edge of the under brim. Examination of a bamboo hat will show how difficult this work must be.

The outer hat is sometimes dyed a different color

from the under one, which may be left the natural cream color. Dyes and bleaches act very easily upon bamboo straw. The last operation in manufacturing a bamboo hat is to trim the projecting straws and to polish it to a finer luster by means of some smooth hard surface, such as that of a bottle.

Qualities of the Bamboo Hat

Sizing is needed to furnish stiffness enough to keep the shape, as the bamboo is so light and flexible a straw.

Bamboo hats are strong but are not so long-lived as most Philippine hats, although probably more of them than of other kinds are now exported. The holes made by hatpins show in a bamboo hat and damage it, though this may be concealed by the trimming or by using other methods of fastening. A fashionable way of trimming, during one season, was by painting upon the surface of the hat, birds, vines, flowers, or other decorations. Dolls' hats are often made of bamboo.

Buri Hats

From the buri palm three distinct varieties of hats are made. The first, called buri hats, are made from the blades of the unopened leaf. These hats are coarse and not very durable. They are suitable only for outing hats and are sold cheaply at summer resorts and

the seaside. As they are naturally stiff, because the straw is rather broad and tough, they are not sized. Neither, usually, are they blocked or trimmed, but are bleached white. Children's hats of buri are made very attractive by weaving in a few colored straws. The open weave is used. Buri is easily dyed, though the aniline dyes now used fade more rapidly than the vegetable dyes which they have displaced.

Kalasio Hats

Another variety made from the buri palm is the Kalasio hat, named for one of the towns where it is made. These hats are made from the midrib of the unopened leaf. The material is stronger than bamboo and does not crack when bent. When brought from the Philippines it is rather costly. Other countries, Mexico, for instance, make a similar hat more cheaply.

The structure resembles that of the bamboo hat — a double hat skilfully joined at the edge. Either weave may be used or both of them together, with a band of the open weave around the brim of a closely woven hat. A dull finish is given by dusting the hat with sulphur.

Buntal Hats

The third kind of hat made from the buri palm is the buntal hat, which is called in the United States

"East Indian Panama," or "Italian straw." The stem of the opened leaf of the palm is used. The method of manufacture is very similar to those previously described. The natives divide the labor of preparing, plaiting, and finishing. Since the straw is naturally stiff, it can be made too stiff with sizing, which is a defect. Buntal hats are strong, light, and look more silky in texture than a Panama. They are quite popular, especially for men's summer hats. The whiteness is not retained long, but if they are bleached when cleaned they look as good as new. The finish is obtained by ironing. Buntal hats in the close weave are the finest produced in the Philippines and are rather costly.

Pandan Hats

Pandan hats are strong and last well. They have a natural gray or brown color, and are of wide straw giving a coarse appearance. Madagascar supplies these hats at a low price. The color is so attractive naturally that they are not often bleached.

Minor Hat Materials

Among the minor materials from which hats are made in the Philippines are a black fern stem, the interior of the vegetable sponge, rice straw, grass, the cattail, and other plants. An unusual hat is made of

rattan. It is double, with a velvety, dark smooth straw of slightly uneven color running through the weave. Durable and beautiful though they are, the expense of their manufacture prevents the wide use of rattan hats.

Export Trade

Since there has been free trade between the United States and the Philippines, the export trade in hats has greatly increased. With this advantage, together with the excellent work of the schools, which are improving and spreading the industry, we may expect to see still greater use of the different varieties of hats from these islands. Bamboo and buntal hats bring the most money to the islands, although many inexpensive buri hats are exported. If the special name is unknown or not used, the hats are called simply "Philippine hats," but the salesperson will be able to pick them out from the preceding description and from the pictures.

Chapter V

MACHINE-MADE STRAW HATS

Development of Industry

The word "manufacture" is applied to the making of hats whether by hand or by machine, but having considered typical methods of making hats and braids by hand, we shall now take up the methods of making and treating hats in factories.

Factory hat manufacture is a development of the last century, and the number, extent, and variety of hat factories, not only in the United States, but throughout the civilized world, are surprisingly large. A hat factory is a most interesting and instructive place to visit, especially if one knows beforehand something about the processes and the reasons for them.

Location of Factories

In general, the countries which produce the most raw material for hats are those which have the greatest number of factories, except the small countries like the Philippines, where the population is not yet industrial but mainly agricultural. All large countries which are industrially developed manufacture hats,

and thus, although the United States produces almost no raw material for hats except cotton, wool, and fur, it has many hat factories.

Very few machine-stitched braid hats are imported; most hats of this sort are made here from imported braids.

Different Kinds of Factories

The modern hat factory has many specialized departments and a highly organized staff of employees. There are various types of factories and establishments connected directly with the hat industry. They may be classified as follows:

1. Foreign houses that receive braids and body hats and ship them after putting them through the finishing processes of dyeing, bleaching, and blocking. Such houses flourish in ports of China, Japan, and other countries that export large quantities of hats. There are many in the United States.
2. Factories that make up braids into hats and occasionally handle imported body hats. These buy almost exclusively from importers of braids and body hats in the rough.
3. Felt, pile fabric, and silk hat factories, which may or may not be associated with the straw factories.

4. Millinery shops and factories, including department store workrooms, where untrimmed hats are trimmed, hats are made of braid by hand on wire, buckram, or net frames, imported models copied, etc.
5. Importers and manufacturers of flowers, foliage, feathers, trimmings, ornaments, novelties, ribbons, silk goods, maline, etc.
6. Manufacturers of hat frames, hat linings, bandeaux, etc.
7. Manufacturers of dye, finishes, lacquers, glue, cement, sizing, varnish, dies, plaster blocks, sewing machines, etc., for use in hat factories.

A description of the second class of factories will include the methods of the first class.

Receiving the Braids

The braids, which are received in bales or cases (see Figure 5), generally come in pieces 60 yards in length, weighing one-fourth of a pound. Manufacturers often order 10,000 pieces at once. Tagal braid from Japan comes 25 pieces of 80 yards each to a bundle, and 1,000 pieces to a box. Chinese braid is tied up into pieces 60 or 120 yards long, with 240 pieces to the bale. The larger manufacturers employ "graders" to separate the grades of braid into several classes. The contents of each bale vary in quality, some finer and

Courtesy of "Millinery Trade Review"

Figure 5. Shipping Straw Braids

some coarser, and in width. The value is set according to quality. This careful standardization makes uniform prices for material of one quality, and one customer or retailer cannot complain that his shipment of hats is inferior to another at the same price.

Sewing the Braid into Hats

The manufacturers generally make up hats in quantity only as orders are received. Large factories with sufficient capital to risk, sometimes make up what is known as "floor" goods, anticipating the demand for a few shapes. Each operator works on one special model, and is usually given enough braid to make at least four dozen of the desired type of hat. The hats are shaped from a plaster block which is given to the operator, and changed whenever a new shape is wanted. Sometimes manufacturers make hats up ahead of time, copying and modifying imported models, but more often they are behind or just even with their orders.

The operators work in a large, light room on power sewing machines of a special make, that sew either by lock or chain stitch. The plaster blocks by which the operators shape the hats have been molded by plasterers in another part of the factory into the exact shapes desired. These shapes are generally either copies of imported models or adaptations of them, as

imported styles are apt to be too extreme for the American taste. The operator wets the braid and sews with great rapidity and deftness. It is interesting to know that the sewers receive more per yard for sewing by machine than the woman received for plaiting the braid by hand in distant China.

Sizing

The sewed hats are then taken to the sizing room, where they are dipped into a kind of starch to stiffen them. The luster and stiffness of the finished hat depend very largely upon the kind of sizing used.

Blocking

The hats are dried on shelves placed one above another in the drying room and are then passed to the blocking department, where they are fitted upon hot metal blocks exactly similar in shape to the plaster blocks which guided the sewing of the braid. The blocks are placed in presses or stampers, which work by hydraulic pressure. Hydraulic presses are used for hats requiring a smooth finish, and stem machines for hats that are to have a rough effect. The hydraulic pressure is 75 to 100 pounds, much less than is used on a felt hat, where it is often 500 pounds. This operation presses the hats into the shape of the metal die, which when it is made of zinc spelter averages 110 pounds in weight.

Additional Blocking

An additional process is applied to more expensive grades of hats, which necessitates more expense, more workers and consequently raises the price of the hat. After the hats are taken from the presses they are put on other blocks on a hot table, which is usually of steel, about thirty feet long and four or five feet wide, and is heated from underneath by gas or steam. This assures a perfectly formed hat.

Finishing

The hats are then ready for ticketing and lining.

The crowns and brims of certain hats are made separately and then sewn together. Finer grades and Panamas are blocked by hand; wooden blocks, which rest on the hot table, are sometimes used.

Sewed Braids

In recent years narrow braids have been used to a great extent. There are, however, many millinery concerns which make hand-sewed hats of wide braids; such as those of artificial silk, ramie, open work hair, and lace Tuscan. To supply the demand of these shops for wide braids and at the same time to meet the requirements of fashion, the straw factories produce bolts of braid which give an effect of three, four, or five rows of narrow braid.

Chapter VI

FELT HATS

Felting Properties of Wool and Fur

The basal fact upon which the whole process of making felt or articles of felt rests is the felting property peculiar to fur and wool; some kinds possess this felting property in a greater degree than others.

When wool or fur fibers are viewed under a microscope, many tiny scales are seen upon their apparently smooth surface; in fact, some fibers seem to be made up of scales, all pointing in one direction, like the ridges on a pine cone. Human hair is like that; if the fingers are run along a single hair, it will be found that they will slide down more smoothly than they will run up, on account of the scales. When fur fibers are put into hot water the scales expand and do not cling so tightly to the fiber. Then when the water is drained off and the scales close down on the hair again, they catch and interlock with scales on adjacent hairs, matting the fibers together more and more firmly as the process is repeated. This is why woolen goods continue to shrink unless properly handled in washing.

Sources of Felt

The raw material for making felt hats comes from many parts of the world, especially from Australia, New Zealand, Russia, Siberia, and Scotland. Fur is the material used in the better hats, but wool is more common and, in cheap grades, adulterants of cotton are used. Wool waste, or the "noils" as the factories call it, preferably of Australian or Merino wool, is the part of wool used for felt. It is bought in the greasy state from woolen factories.

Most of the fur was originally obtained from beavers, which were formerly found in numbers in the northwestern part of the United States and in Canada. They live in colonies, building dams across small streams by night, and concealing the entrances to their mud houses on the bank by having the opening several feet under water and the passageway sloping upward.

Other prized fur comes from the otter, mink, Russian hare, Saxony hare, Scotch hare, Scotch coney, and French coney (rabbit).

Muskrat and nutria have also been used. The muskrat or musquash, a native of Canada, is a cousin of the beaver, but smaller. He builds houses as does the beaver and is very prolific. The pelt is sold for furs as "River Mink" or "Hudson Seal." The fur of the nutria, or coypu rat, is imported from South America. It is most important to get the fur for hats

at the proper season. It is much the best in the winter when it is not being shed for warm weather, and is called "seasoned" fur; at all other times it is known as "unseasoned." The thickest fur is obtained from animals which live in a cold climate.

First Process

Receiving the skins and preparing the fur for the hat-maker is almost a separate manufacturing process, performed by specialized factories.

The skins are first sorted by experts into eight or ten grades according to kind, color, or quality. They are brushed to straighten out the fur, and then, as there are stiff long hairs sticking up throughout the soft, downy fur, as many as possible are removed by plucking, a process which does not harm the fur.

Washing the Skins

The skins are then cleaned of the fatty matter, of which there is a large amount, in beaver and nutria skins especially. This process is known as "carroting," which is washing in a solution of mercury and nitric acid. "Carroting" is so called from the color it imparts.

Drying and Cutting

The skins are carefully dried, brushed, and then cut into narrow strips by a machine which at the same

time shears the fur close to the skin. The pelt strips shorn of the fleece in this way are used for by-products such as glue and gelatin.

Sorting and Grading

The fur fleece is then sorted into grades according to quality. The choicest part of the fleece of land animals is the back, and of water animals the belly and cheeks; towards the outer edges of the skin the quality deteriorates. Sometimes the fur is stored to improve with age, and sometimes dyed after it has been carroted and graded. It may be mixed and blended also before being sold, a common mixture being one part uncarroted to two parts carroted. It is put into 5 and 10 pound bags and sold to the hat manufacturer.

The process from here on is identical for both fur and wool, and it should be remembered that the word "wool" may be substituted for "fur" throughout.

Mixing

When the fleeces are received by the manufacturer, the first process is weighing and mixing the grades to make hats of different qualities. This process requires expert knowledge. The short and the long fur are mixed together.

Cleansing the Fur

To mix the fur and to cleanse it two machines are

used. The first is called a "devil." The fur is fed through it three times, being tossed and whirled and picked apart by revolving teeth and settling again in order to have the process repeated. The fur still has in it hairs, bits of pelt, coarse particles, and dust, which are next removed by a machine called a "blower." A cylindrical apparatus, inside of which a toothed cylinder revolves several thousand times a minute, tosses the fur upward where it is blown to another machine, while the impurities fall down upon a screen which sifts them. This operation is repeated several times.

Forming

The next process is called "forming." In preparation for it the exact weight of fur for a hat, in the case of a soft hat from three to five or six ounces, is put into a little box. A dozen of these boxes of fur are then put into a case, and from this point on the hats continue to be grouped by dozens.

An operator feeds the fur, box by box, through rollers, into the machine called a "former," which roughly forms or shapes the hat body. This machine, invented in 1846, reduced the cost of labor to about one-tenth that of the slow hand method. A part of the machine whirls and scatters the fur. A cone of thin copper plate, perforated with many tiny holes, is slow-

ly revolved, while a suction fan revolving very swiftly — about 4,000 times a minute — below the cone draws the fur down evenly all over the cone's surface and mats the fibers together. Wet cloths are thrown over the cone, another perforated cone of the same shape is placed over it, and the whole is put into a tank of hot water for a minute and then passed to the next process.

Felting Process Begun

This matted fur, even as it comes from the hot water, is the beginning of the hat body. It is about three times larger, however, than the finished shape — some 32 inches deep and 36 inches in diameter.

The cone might be discarded at this point, for the process of felting has really begun. In order to harden the fur bodies enough to prevent breakage in later handling they are wrapped in a woolen cloth still attached to their cones, rolled gently by hand, squeezed, and pressed.

Sizing

The sizing process now begins; after it has been repeated the cones are reduced to one-third the original size. Three or four cones are dipped together into a tank of water kept at the boiling point by steam, and then rolled upon a sloping table, which is called a "battery."

The hats are taken out of the boiling water quickly, wrapped in burlap, and again rolled gently by hand on the table to dry them. As the process is repeated the hats may be treated less gently, since the felt continues to knit more closely together. The rolling tends to mat the fibers closely as they press together and spring back.

In cheaper grade hats this process is done by machine, but the hand method is considered better. The reduction in size and thickness must be uniform, and this is secured by shaking and turning the cones. By this method any imperfections are discovered and should be corrected at this point. Foreign particles which have escaped removal by previous cleansings must be taken out. The selvage is trimmed, and the size in which the hat is to be finished is marked on the edge by a notch.

Dyeing

The mixture of the different colors of the raw material results in a gray shade in the body, and if the hats are to be dyed, they are boiled several hours at this stage in a solution of the desired color. The dye is in large vats and is constantly stirred to give uniform color. In the drying room the hats are dried thoroughly at a high temperature. Coal tar products are generally employed for dyeing.

Stiffening

After dyeing, the hats are soaked in a solution of shellac in alcohol to stiffen them. A cheaper solution is of shellac and alkali, and since 80 per cent of the alkali may be recovered for use again, it is generally used. The hats are dipped again and again in the solution and rolled, and when thoroughly soaked the alcohol is allowed to evaporate or the alkali is counteracted by an acid. They are dried at a high temperature and steamed to draw the shellac into the interior of the fabric.

Stretching

The stretching department receives the hats next and places them on machines; here they begin to resemble the finished shape. The felt cone is worked slowly and gently onto a revolving block, shaped like the crown of a hat and called a "tip," and is forced down until it conforms to this shape. The tip-stretching shapes the crown only; after this the brim must be stretched. The hydraulic presses which then block the hats into shape often exert 500 pounds' pressure. These presses use metal dies of the exact shape of the finished hat.

Finishing Processes

Until this stage the process has been the same for

both soft and stiff hats, but from now on the treatment is different. The soft hats are dried after the machine blocking, softened again by steam, shaped and stretched by hand over a die of the desired shape, ironed by hand with a hot iron, and put to cool in a cold water press. If the surface of the hats is too rough, all or part of the nap is removed by a machine with a sharp knife blade. The hat may be polished and rubbed to bring out the best effect of the dyes and to give a gloss. Some colors have a more glossy effect than others. The finishing includes trimming the brim. After an inspection the hats are packed in bandboxes and put in cases ready for shipment.

Different Grades of Felt

The largest business in felt hats is in men's wear, as there is a staple demand for men's felt hats. The amount of felt used in women's headgear varies in different years. There are many different grades and finishes of felt. Besides wool hats and fur hats there are mixtures in which the wool is usually underneath. Hats of shoddy, a combination of the cheapest wool and cotton, are made only when felt hats are so popular that a very low-priced felt is demanded by a part of the trade. The finish may be thick and downy, or like a velour with little nap. Long hairs are characteristic of the scratch or mohair finish.

Recently there has been shown a felt of a beautiful lustrous finish, sometimes called charmeuse. The distinguishing features are the slightly loose nap, and the polished surface, of the flat nap. The velour finish is dense and erect.

History of Felt Hats

Felt hat manufacture is a very old industry. According to one story it was originated by St. Clement, and the festival of the trade used to be held on his day, the twenty-third of November. Of course, until recent years all the operations were performed by hand, but modern machinery has usurped every process, although it is still believed that the hand process makes a somewhat better hat.

As a matter of fact felt hats date back to a time even earlier than the legend just referred to. One of the types of ancient Roman hats, called the "petasus," worn on a journey, was much like the felt hats now used.

Many traditions are connected with caps and hats. Among the Romans the cap was a symbol of liberty. Wearing a hat in medieval times also was a mark of distinction.

Hatters began to flourish in Nuremberg, Germany, as early as 1369. In 1453 the French had adopted headcovering generally. In colonial days the hatters

of England complained of the competition of the American colonies, and ever since America has been very proficient in hat-making, although soft felt hats were not worn here until 1850.

Today some of the finest hats in the world are made in America. Centers of the industry are Philadelphia and Reading, Pa.; Orange and Newark, N. J.; Danbury, Bethel, and Norwalk, Conn., and Yonkers and Brooklyn, N. Y. At the present time many hats are exported from the United States.

Chapter VII

VELVET AND OTHER FABRIC HATS

Use of Velvet and Other Fabrics in Hats

Velvet is used a great deal for hats and hat trimmings. It has been popular for headgear since it was introduced in England at the time of the Norman Conquest, when the men of the nobility wore bright colored clothing and caps or bonnets of velvet adorned with long plumes.

Manufacture of Pile Fabrics

Velvet is called a pile fabric because of the soft nap or pile which hides the cloth that forms the back of the material. The back of almost all velvet is of cotton; the pile is of silk. The pile is formed by carrying part of the warp thread over a wire and cutting the loops afterwards, or by a special double-cloth weaving process. (See the manual for the "Silk Department" for a more extended description of velvet weaving.)

Ways to Determine Quality of Velvet

There are a number of ways to tell a good piece of velvet, although it is rather difficult for an amateur to do so. The closeness of weave of the back is one indication of the quality. The two principal kinds of weaves are the German and the Lyons. Both kinds are made in America. The Lyons weave, which is named for a French city which is a great silk and velvet center, is generally the best. The backs of the two kinds look slightly different, as may be seen by examining them; the Lyons velvet is usually lighter in weight, and the back shows through the nap more. Of two grades of Lyons velvet the more expensive has the thicker pile and shows the back less. The thickness of the nap may be clearly seen by folding a piece of the velvet to determine how much the back shows through on the fold.

Uncut velvet is sometimes used.

The quality of silk from which velvet is made has much to do with the value of the finished article. Pure silk from silk-worms fed on mulberry trees, and reeled in great lengths from the cocoons, is the best. The waste silk — that made from pierced cocoons from which the moth has escaped — and other inferior kinds, are called schappe (spun) silks and do not make so fine an article. Although cotton is commonly used for the backs, manufacturers used to speak

of a good piece of velvet as "linen-backed," to indicate superior quality.

Manufacture of Velvet Hats

Formerly, even in factories, all velvet hats had to be made by hand; the operators stretched and pinned the velvet onto wire and net frames. At every place where there was a dip in the shape, the velvet had to be tacked by hand. This made the hats more expensive and the effect was not quite so smooth and tailored as that obtained today by a new method, by which the velvet is pressed onto buckram or willow frames containing glue. The heat in the dies brings out the glue, which, however, does not come through the fabric. This makes the velvet conform easily and exactly to the shape of the frame. The finish of the velvet is slightly affected by this method, but not enough to damage it.

Hand-made velvet hats are often made over wire frames which are usually bought from factories. It is not a very difficult piece of work to make a frame, and anyone who is skilful with her fingers can do it. Strong wire is used and with a pair of pliers tiny thread wire is twisted around each place where the larger wires cross, to hold them in place. This method is taught in millinery classes. (For further information in regard to making hat frames see Chapter XV.)

Silk and Satin Hats

Silk hats are worn between seasons when people are tired of straw or velvet. Of late years satin has been in favor. Satin is a silk, of course, but the weave is usually one thread under and five to seven over, so that the extreme glossiness of the smooth silk fibers is preserved. In a taffeta, where the weave is simply over one and under one (simple or tabby weave) much of the gloss is lost. The more tightly the silk threads are twisted, the stronger they become but more of the shimmer is lost.

Durability of Silk Hats

If the public were more particular about the wearing qualities of a hat, it would pay the salespeople to know thoroughly all about the durability of the popular kinds of fabrics, but the average customer merely wants reasonable service from a hat, as she tires of it, or the season changes before she wears it out. So the appeal of length of service cannot be made to many customers. When it does appeal to a customer, the price of a hat is a fairly sure indication of the value.

Weighted Silk

A stiff silk like a taffeta is apt to crack and wear out sooner than a soft silk of the same value, owing to the weighting or loading of the former. Silk fiber has the power of absorbing certain metals in solution. The

stiffer and cheaper the silk, the more metal (salts of lead) has been absorbed into the fiber in its making, and the more this so-called weighting will cause the fiber to crack and wear out. Dark dyes absorb weighting more readily than light. If you wish to test any piece of silk for the amount of weighting, burn a small piece with a match. If a soft gray ash is left, the silk was of good quality, but if there is a stiff black metal framework left after the silk has burned away, the piece was heavily weighted.

See manual for the "Silk Department" for further information on the weighting of silks.

Silk is used in mourning hats, often in such materials as faille or peau de soie, although the materials vary with different years. Silk is used chiefly in millinery shops and workrooms, especially for the more dressy hats. Silk or satin hats are usually trimmed very simply, perhaps because of the natural beauty of the silk. Many hats are made with combinations of silk or with a brim lining of silk, silk bows, or ribbons. Hat linings are of thin unweighted silks, such as China silks, mercerized cotton, or soft taffeta, that wear well, stand pin holes, and give the hat a good finish.

Other Fabric Hats

Every year sees new varieties of fabric hats, made of chiffon, tulle, maline, cotton crêpes, georgettes, silk

ginghams, pongees, lace, net, silver cloth, and cloth of gold. Outing types, as the so-called sport hats, are simple in trimming and finish, often stiff in outline, and made of such materials as crash, duck, eponge, linen, rep, etc. High-grade linen hats are hand-blocked in the factories. The most expensive linen or cotton hats are made in workrooms, and in some years hardly appear at all. Embroidered hats follow the fashion.

In material, form, and general style, fabric hats vary every season. They form a most important part of the millinery trade. A study of textiles would be helpful to anyone who wishes to become well informed on the subject of fabric hats. (See manuals for the "Silk" and "Cotton and Linen" Departments.)

New Materials

An illustration of the new materials that are brought out now and then for hats is Pontine, a fabric manufactured by the Dupont Powder Mills. This material has a silk or satin surface on one side, usually of some pretty color, and on the other side resembles leather. It is made from the waste obtained in the manufacture of gunpowder. Its water-proof, light, flexible qualities make it a desirable material not only for hats but for other purposes, such as motor coats. Whether this article and other novelty materials will win a per-

manent place on the market and have a steady demand yearly, remains to be seen.

Fur Hats

Whole hats and parts of hats are made of fur for winter wear. A few appear even in the extreme southern part of the United States. Several kinds of fur were mentioned in Chapter VI.

Fur hats are usually close-fitting and small, or else the crown only is covered with fur, because of the warmth and bulk of the fur. Some furs are heavy, but the lighter varieties are most used. White fur is popular for dressy hats. Much more fur is used in trimming than in body hats. Fur is used in band, crowns, tufts, or brims are faced with fur.

Miscellaneous Fabrics

Hats are also made whole, or in part of velour, moiré, satin cire, Angora cloth, duvetyne, hatter's plush, bullion cloths, metallic cloths, jet cloth, celophane combined with metallic threads, panne, French kid, wool, taffeta, satin, georgette, and others. Some of these, such as wool and Angora cloth, leather, or imitation leather, are for sport hats.

Chapter VIII

HAT TRIMMINGS — FEATHERS

Varieties

Every season brings change and variety in the trimming of hats. Some fashions return after a few years; others are eliminated permanently. It is an old proverb that a fashion returns after seven years; but like many proverbs this is merely a suggestion of the truth and must not be taken too literally.

The standard trimmings for hats are:

Feathers
Flowers and fruit
Ribbons
Ornaments

Other trimmings include:

Lace
Maline
Chiffon
Fur
Leather
Beads
Yarn

Feathers are found in many forms, including wings, quills, tails, bands, aigrettes, pompons, pads, and plumes.

Flowers are arranged singly and in wreaths, sprays, and bunches, with or without foliage.

How Style Is Influenced

Style in trimmings follows public interest in many cases. If the attention of the country is centered for any reason on the Orient, Chinese ornaments may come into vogue. A play or a popular actress may introduce a fashion in hats. Some years ago colors and designs followed Persian effects, and later Bulgarian designs, when the Balkan wars were in progress. When a pope died a number of years ago, "eminence purple" became fashionable. The recent war gave a military slant to all fashions.

The Story of Trimmings

The story of trimmings for hats is perhaps as ancient as the story of hats, and not a great deal is known about it. A few facts are certain. For instance, the question has often been asked why trimming tends to be placed more often on the left side of a hat than upon the right? In olden days when men wore velvet bonnets with plumes and carried a sword which they might be called upon at any time to use,

there was danger in having the sweeping plume on the right side. If the knight were on horseback and had an encounter with an adversary, his sword might catch in his own plume, unhorse him, and cause his overthrow. Hence plumes and trimmings were worn on the left side.

For centuries men dressed in much brighter colors than they do at present, and wore hats with trimmings. Their dress, as we know it, was standardized in the early part of the nineteenth century, and all ornaments passed over to women. Men love color. Even yet many of our leading hat designers are men, although the number of women in the important positions in the trade is increasing.

Feathers

Feathers are suitable for all seasons, as they are always attractive; and since they are of animal fiber and designed by nature to stand all kinds of weather, they usually wear well. The kinds in general use are those of the ostrich, vulture, peacock, goose, pigeon, duck, guinea-fowl, barnyard fowl, owl, pheasant, and parrot.

Until recently, a study of feathers would have included many wild birds from this country and elsewhere, but a United States law has prohibited the importation of both wild and song birds and in ad-

dition many states, influenced largely by Audubon societies and other organizations for the conservation of wild life, have prohibited the sale of certain feathers, so that in the future such plumes as those of the osprey and the egret will be rarely seen.

Only ostrich, domestic, and game birds are left to furnish plumage for the millinery trade. There is supposed to be, however, enough raw stock left in the country to supply the demands of several seasons. The plumage of the bird of paradise, gourah, numadie, heron, and egret is used principally in the aigrette form.

Treatment of Feathers

Feathers are put through various processes before they are ready for branching or pasting. In the final forms they are known to the trade as plumes, pompons, aigrettes, breasts, wings, pads, bands (to encircle the crown or to outline the brim), and quills. A table follows, showing what kinds of feathers are made up into each of the various forms of branching or pasting.

Ostrich Feathers

The ostrich, which is now bred for commercial purposes on large farms, was formerly a native of the deserts of Africa and Arabia. It is a very large bird;

	Aigrette	Wing	Breast	Pad	Band	Pompon	Sweeping Aigrette	Quills
Ostrich	x				x	x		x
Vulture	x				x		x	x
Paradise	x				x		x	
Numadie	x							
Gourah *	x				x			
Heron	x	x						
Egret	x	x						
Peacock	x		x	x	x		x	
Pheasant		x	x	x	x			
Parrot		x	x	x				x
Guinea-fowl		x	x	x	x			x
Pigeon		x	x	x				
Goose	x	x	x	x	x	x †	x	
Duck		x	x	x				
Turkey		x	x	x		x		x
Barnyard Fowl		x						x
"Spanish Coq"	x					x	x	

* Gourah; plain, the female; Imperial (with eye in plumage), the male.

† Soft side feathers. The larger breast feathers of the goose are technically called "Nagoire."

an adult male weighs 300 pounds and can look over a fence 9 feet high. The female is gray, the male black with wings and tail bordered in white.

The ostrich has the reputation of being a very stupid bird, which thinks to escape its enemies by hiding its head only. The fact seems to be that the bird, scent-

ing danger from afar, conceals itself in a shadow, its head behind a rock if possible. It is now said, indeed, that when the head is concealed the bird is practically invisible, as the body blends with the color of the sand, and so the device is really clever. At any rate, other habits, for example its skill in concealing its nest, show no lack of cleverness.

A few hens and one cock make and guard one nest of eggs, feeding the one or two dozen young birds that hatch upon the extra eggs which the hens have scattered about the nest in the sand. The heat of the sun does most of the hatching in the deserts, but the ostrich broods in addition, probably to protect the eggs.

Ostrich Farms

Ostrich farms are conducted in Cape Colony, South Africa, and in California and the western states. Figure 6 gives a view of a large number of ostriches on an ostrich farm. At regular intervals the birds are deprived of their plumes. The first feathers are plucked when the bird is a year old. They increase in beauty and value until the fifth year, and are good for many years afterward. Three hundred feathers may be taken from a single ostrich.

The plucking must be done very carefully in order that new plumes may grow. The feathers are graded and sold by weight.

The varieties of feathers obtained from the ostrich are as follows:

Floss — under the wing feathers, used for boas, muffs, trimmings, fancy pompons, and head dress.

Booze — tail feathers, used to fill in.

Byax — wing feathers, used for tips.

Long — (first grade) wing feathers, black and pure white from the male. Three or four raw feathers are put together to make an ostrich plume, the stems being carefully shaved down so that they may not be too thick.

Chicks. The feathers of young birds are used for imitation aigrettes and birds of paradise. The flue is burned away by chemicals.

Spade — body feather before it becomes fully developed. The top is not filled out.

Male and female feathers. Black and pure white feathers are from the male bird. Feathers from the female are gray or mixed.

Bleached feather, ready for dyeing.

Forms of Ostrich Feathers

Ostrich feathers are made up principally in plumes, tips (small plume feathers), pompons, and bands. The plumes are usually two- or three-ply, that is, of

two or three feathers. When three-ply the inner filling is composed of shorter lengths.

A plume may be curled at different times to give the effect of different sizes according to the demands of fashion. A tight curl will naturally give a narrower appearance than a broad or full curl. The length of a plume is frequently deceptive as the head may be curled over, to a greater or less extent.

Willow plumes were very popular a few years ago. Each tiny feathery fiber is lengthened by having several lengths of the same kind knotted to it, a tedious, fine, hand process. The result is a plume with long, sweeping feathers.

Plumes are measured from the stem where the flue begins to the tip of the head. The width is determined by laying the plume perfectly flat and measuring its total width at a point about in the center. Ostrich feathers are frequently treated with acid and glycerin to give a much thinner appearance to the flue. When so treated they are generally used in aigrette form or branched in some novel way. This is called burnt ostrich.

Dyeing Ostrich Feathers

If the color is to be light, the dye liquor may be cold, but darker shades require cold water first, and then slow heating until the water is very hot — though

never boiling. The quill and butt, or end, of the feather are dyed first, and later the tip and flues, because the former parts may take twenty or thirty minutes to absorb the color, whereas the tip and flues will take the dye in two minutes. If the stem does not take the color thoroughly enough, it has to be painted afterwards. After a thorough rinsing in warm water the feathers are partly dried by soft rubbing with a cloth, then laid on paper and covered with powdered dry starch. The starch is gently beaten and shaken out, and the process repeated until the starch is fully removed and the flues fluffed out. If starch paste forms on the feather it may ruin it, or if too much dry starch remains on the flues the feather may look woolly and have to be redampened and starched over again.

Wet starching, a process employed by professional dyers, consists in rubbing the feather in a milky mixture of cold starch and water (not a paste), then drying by running it between folds of cheese-cloth through a wringer, and placing it in a warm room or sunlight. When thoroughly dry the starch is beaten out gently on the edge of a table.

Black Dye

The secrets of the black dyeing of feathers are kept by good dyers; but the process with logwood dye, which is the best, takes about six days. The methods

of dyeing, except for the black feathers, are quite simple. The feathers are dyed in small quantities. Acid dye stuffs, either formic or oxalic acid, are best in color and fastness. If the feathers are not bleached before dyeing, they are washed thoroughly in castile soap and water and rinsed. They are then soaked in hot water half an hour to get the stems and quills soft enough to take the dye well.

Feathers are often painted with oil paint and gasoline, but the color rubs off and there is danger of plastering the tiny barbules together if the paint is too thick. Barred or stenciled effects may be obtained by painting.

Shaded effects are made by first dyeing the whole feather in a weak bath, and then strengthening the color gradually as the feather is withdrawn bit by bit. Only the end is put into the last and darkest bath of dye.

After steaming, the feather is curled by hand with a special knife.

Vulture Wings

The vulture, a large naked-headed bird of prey, is found in many countries, including Arabia, Egypt, Africa, and America. The large wing feathers are admirable for quills when that trimming is in vogue. The other plumage of the vulture resembles that of the

ostrich chick and is principally used in aigrette effects after it has been treated with acid and glycerin. The longer fiber vulture plumage is frequently used to imitate numadie.

Peacock and Pheasant

Peacocks are raised in Europe and are native to India, Ceylon, and Malay. Formerly the peacock was eaten but is now used for the plumage, or as an ornamental bird. In ancient Greece the peacock was sacred to the goddess Juno, and later was used in Christian Byzantine art as a symbol of the resurrection.

The long-tailed pheasant has been introduced into the United States from Asia and Europe. The plumage of the male bird is very brilliant. The longer tail-feathers of the peacock and pheasant are frequently used in their natural state, or sometimes burnt with acid.

They may be used as separate feathers to encircle the crown or to outline the brim, or may be placed at some odd angle on the hat. They are frequently used in aigrette form after they have been burned with acid. The breast feathers of these birds make excellent pads or breasts. The peacock in this form is invariably used in its undyed state, whereas the pheasant is frequently dyed.

The Lady Amherst pheasant is specially popular.

Wild Duck, Parrot, and Guinea-fowl

The plumage of the wild duck, parrot, parrokeet (a small parrot), and the mottled plumage of the guinea-fowl are generally used in their natural undyed state in the form of wings, pads, and breasts, as these feathers are excellent for pasting. Sometimes they are used alone but not infrequently they are combined with pigeon or fowl feathers of a solid color, thus forming an attractive color contrast. The pointer, or long wing feathers, of these birds are used to supplement their small feathers in making wings.

Pigeon

The pigeon is found in almost all parts of the world, and there are many domestic breeds. The fine breast feathers of the pigeon, technically known as " rond," are used for making the finest of pads, breasts, and pasted bands. They, together with pigeon pointer feathers, are also used for making the costlier wings in small and medium sizes.

Fowl

Wild fowl of all kinds contribute largely to the crop of feathers. Domestic fowl, including goose, duck, turkey, and barnyard fowl, or chicken, are very much used in European countries and now also in America. Such fowl are raised almost as much for their feather

value as for their meat value. This is particularly true of the pure white varieties which can be easily dyed and treated. The feathers of such birds are burnt with acid, dyed, and made into all sorts of aigrette effects. If not burnt they are used in making wings, pompons, pads, breasts, and bands. Their long pointer wing feathers, in addition to being useful for finishing made wings, are also excellent for single quills.

"Spanish Coq" and Hackle

The saddle feathers, the long slender feathers which droop from each side of the saddle of the barnyard cock, are commonly known as hackle feathers. When dyed various shades they have an attractive brilliancy and are employed principally for breasts and pads, though sometimes they are used to give finish to wings and in pompon effects. The dark bronze green tail feathers of the barnyard cocks of certain breeds are valuable for pompons and sweeping aigrette effects. These are particularly durable since they are invariably branched with wires and not pasted in the process of manufacture. Coq is a shaded tail of feathers. Coq is also spelled "coque."

Some of the birds of which importation is now forbidden are still used. A few words about the most important of them follow.

Egret or Aigret (a kind of Heron)

Many people object to the use of the true aigrette plumes because they are the nuptial plumes of the white egret. This small white heron formerly lived in swamp lands, from Florida to as far north as New Jersey. It has been practically exterminated in North America, although it still exists in South America, whence many lawless hunters try to smuggle the sprays into the United States. The plumes of the crest grow only when the mother bird is tending her helpless young.

The "dead feathers" which naturally fall from the crest are not very desirable, so the hunters, not satisfied with these, tear the crest from the bird's head, thus obtaining what is technically known as "live feathers." The hunters either kill the bird or leave her to die, while the young in the nest die also. One crest has about forty plumes.

There have been very bitter legal fights about aigrettes in almost every state. The spray is so beautiful and delicate, as well as so strong and graceful, that it has been hard for beauty-loving women to give them up, and the price they bring — a single plume often costing hundreds of dollars — tempts hunters to get them. Imitations are rapidly taking their place.

Bird of Paradise

In 1521 the bird of paradise was introduced into Europe from New Guinea and adjacent islands. It received its name because it was supposed never to alight upon the earth, but to live in the sunlight in some miraculous manner. The reason for this fancy was that the feet had been removed from the first skins sent to Europe.

The plumage of the male is of great beauty and of an odd shape, the two delicate long feathers extending from under the wings far beyond the tail have a tufted feathery tip like a question mark at the end.

Some birds of paradise are green in color, while others are of velvety red with plumes of purple tipped with green. Natives kill them with blunt-headed arrows during the courting season. The skins are cured by smoking and sent to market.

Other Wild Birds Used for Hat Trimming

The gourah is a species of pigeon, living upon the ground and known as the crown-pigeon. It comes from the islands of New Guinea or Papua. The emu, a large ostrich-like bird, comes from Australia. Storks, which are a kind of heron, have been used for plumage also. The marabou stork lives in India.

Chapter IX

HAT TRIMMINGS — FLOWERS

Sources of Artificial Flowers

Until recent years almost all fine flowers were made abroad, chiefly in France. The Italians were the first people in Europe to excel in the art of flower-making, and later the French became very proficient. Germany and Austria made a great many of the lower priced ones.

Almost all small flowers, such as forget-me-nots, heliotrope, verbenas, lilacs, and wisteria were made in Europe until the war. Since then they have been well made in the United States, for the most part in and about New York, Philadelphia, St. Louis and Chicago. Violets, however, have long been made here by Italians. Roses and other fine flowers are made here also.

In former years much artificial flower-making was performed by sweat-shop labor in places which were often unsanitary. In English trade schools fifty years ago children were taught the craft and allowed to work as soon as they were able to move their fingers accurately, even at the early age of three. It is a relief to

know that today most of the work has been taken over by factories. It is hard to supervise the sanitary conditions under which work is done in homes.

Flower Materials

The materials generally used in flower-making are muslin, silk, satin, velvet, and velveteen; but tinselcloth, ribbon, chenille, leather, celluloid, straw, crêpe, felt, and feathers are also occasionally seen. The great majority of flowers are made of a thin, fine muslin such as batiste or nainsook.

Stiffening and Cutting Out

The white muslin is first stretched on a frame and brushed with a mixture of starch and gelatin to stiffen it and to give the proper finish. The patterns of the flowers are then cut out. If they are to be " specialty " flowers, they are cut out by means of a die pounded by hand with a heavy mallet, but the less expensive ones are stamped out by machine. The layers of stiffened cloth are placed one above another and from half a dozen to seventy-two petals may be cut at one time.

Dyeing

They are then separated and dyed in bowls according to a color chart which, in the better factories, comes from Paris. The shading is done by dipping a brush

into a deeper color and touching the flowers with it while they are still wet. The color spreads and shades off in a very natural way. Fine flowers are finished with a stencil, or are hand-painted. The finished petals are laid on sheets of blotting paper and dried either in the air or in ovens by artificial heat.

Making

Many flowers are cut in flat circular pieces with a hole in the center and the petals only partly formed. These are called "slip-ups." The flower-maker takes a bunch of "peps" or flower seed pods, which come already prepared, and fastens them to a wire. She then slips the number of circles required upon the wire, puts on a little paste, and finishes off the stem. If flowers are cut in separate petals, these petals must be pasted on one at a time. When separate petals are cut they are pinched into shape or "goffered" with pincers or a hot iron to give them a natural curl. The slight pull and twist which an expert can give a rose leaf changes it from a flat piece of muslin into a perfectly curved petal.

The stamping machine also cuts out, dyes, and veins the leaves. The stems are wound with some material or covered with a tube of green rubber composition.

There are various finishing processes, such as gum-

ming, waxing, and dusting. Powdered glass gives a frosted effect. Fine cambric is used to a great extent for petals, and silk in expensive flowers, with sometimes a gauzy net backing to give strength and shape. Taffeta and velvet are much used for leaves.

The flowers made in this country are not yet equal to the best French flowers, as we are not willing to give the time necessary to do artistic work. In France the workman is an artist who imitates nature as carefully as if he were painting a picture. The last touches are put on with the living model before him or from a perfect copy. A flower-maker is usually kept at work on one kind of flower, i.e., a rose-maker always makes roses and a violet-maker violets. They naturally become very expert, but operators who are constantly changing their work cannot produce such results.

How Flowers Come to the Milliner

There are a number of forms in which flowers come to the milliner for use. They are put up singly, or in bunches, sprays, clusters, or groups of one kind to be opened and used as desired by the trimmer; or flowers and foliage which blend as to kind and color are combined in wreaths, bouquets, or clusters, thus forming a trimming ready to be applied without further blending or combining on the part of the milliner.

The kinds of flowers in general use may be classed:

Roses
Field flowers
Appliqué flowers
Violets
Small flowers
Odd flowers
Rare flowers
Natural flowers
Foliage
Fruits

Roses

Roses come in large, medium, and small June sizes. They are crushed for appliqué trimming with or without foliage, with or without combinations, with forget-me-nots, cowslips, or similar small flowers. American Beauty, LaFrance, Neron, cabbage, or other round or flat shapes with either foliage or ribbon, or both, are used for trimmings of softer effects. They are sometimes combined with other flowers in wreaths or standing clusters. June roses are used principally for children's or misses' hats or for mixing in tight bouquets.

Field Flowers

Poppies, bluets, daisies, buttercups, and pansies

vary greatly as to size. Large single daisies and poppies are frequently used for appliqués. Field flowers are generally used, however, in combination, frequently with foliage. The small and medium sizes are almost always used for misses', children's, and sport hats; although the dainty, small clusters are used on the dressier styles as well.

Appliqué Flowers

Dahlias, asters, camelias, gardenias, chrysanthemums, and poppies are used almost altogether in appliqué.

Violets

Parma, wood, and Russian violets are frequently combined with roses or other flowers, and are used principally on early spring hats. Trimmings of all violets are usually confined to matrons' hats, except occasionally in outlining the edge of a large, drooping brim.

Small Flowers

Forget-me-nots, heliotropes, verbenas, cowslips, primroses, lilies of the valley, hyacinths, etc., and blossoms are generally used in combination with other flowers, either as the basis of trimming or in branching.

Odd Flowers

Lilacs, wisteria, orchids, hydrangeas, and sweet peas are used at times. These are especially subject to the changes of fashion; sometimes they are in great demand and in some seasons not employed at all. While they are frequently used as the basic trimming, they are generally combined with other flowers. They are especially adapted to toque and turban trimmings, although when in style they are used on hats of various shapes. Nasturtiums, apple blossoms, and baby's breath are also used somewhat.

Rare Flowers

Narcissi, fuchsias, jonquils, water lilies, and pond lilies are not very generally used, but when fashionable they offer a decided relief from the more conventional kinds of artificial flowers.

Natural Flowers

Natural ferns, sea moss, wheat, and mignonette are often used after being dried and treated. Most of these are also reproduced artificially.

Foliage

Foliage of all kinds is used in branching the various flowers with which it is found in nature. In some seasons, however, entire hats or entire crowns are

made of foliage, or the crown edges or the brims are outlined with foliage. Entire hats are also made of flowers which are sewed flat to the frames and relieved with a little satin or velvet ribbon or an aigrette.

Fruits

Several kinds of fruits, such as grapes, cherries, small apples, peaches, and oranges, are used in trimmings.

Chapter X

HAT TRIMMINGS — RIBBONS, BANDS, AND ORNAMENTS

Silk Ribbons

Ribbons are usually made of silk, and so a few words about that material and the comparison of weaves follow. (For a more exhaustive treatment of the subject, see the chapter on "Ribbons" in the manual for the "Silk Department.")

Silk is the strongest, most beautiful, elastic, and durable of all the important textile fibers used for the manufacture of cloth. The story of the cultivation of the silk-worm is familiar to all of us. It is fed on mulberry leaves for about five weeks, then it spins a cocoon from which a gauzy thread averaging 2,000 feet in length can be unwound. The moth must not be allowed to escape and so he is killed by heat before the time has arrived at which he is due to emerge from the cocoon. Hot water softens the gum with which the silk-worm cemented the cocoon, in a "degumming" process employed by the manufacturer.

Then the silk can easily be unwound. The outer fuzzy silk and the weak fiber from the very center of the cocoon are inferior in quality and are used in the cheaper grades of silk. Sometimes the cocoons are pierced by escaping moths and these too make inferior silk. Under the chapter on silk in body hats was discussed the question of the loading or weighting of silk, and the resulting damage to the wearing qualities of the silk.

Weaves

The simple or tabby weave found in silks such as taffeta is the simplest of all weaves, and it wears very well. Two-tone ribbons are made in this way, but the lengthwise, or warp, threads are a different color from the crosswise ones.

Satin ribbon, if of a cheap grade, is likely to catch and roughen, for a large number of the crosswise or filling threads are on the surface of the cloth to give greater luster.

Ribbons with a ribbed effect in the weave, such as faille or grosgrain, usually have cotton or wool yarn in the concealed bars which go into the filling of the ribbon. They wear well, except in the cheaper grades, in which they tend to wear out along the bars as the silk warp threads are not thick and strong enough to stand the rubbing along the heavy filling.

Plaids and stripes are made by using different colored threads for the variations of the pattern.

Velvet ribbons, woven with an extra warp, which is sheared to make the pile, are of varying grades. The backs are usually of cotton, but in the finest grades of velvet ribbon, the backs are of silk with a satin finish. This ribbon makes beautiful bows.

Velvet brocade ribbon is unusual, but exceptionally handsome. Silk brocades of the Jacquard or pattern weave are much used many seasons. These are made on the complicated Jacquard loom which weaves intricate patterns.

Ribbon Patterns

The changing demands of fashion govern the uses of ribbon, deciding not only the quantity required for trimming but also the weaves that shall be used. Some years Jacquard patterns, where a figure or design is woven into the ribbon, have been in favor. Popular ribbons now are grosgrain, faille, taffeta, moiré, cire, satin, velvet, metallic, and novelties, many of which are made up of a combination of two or more of these weaves.

Cire or "stovepipe" ribbons are not distinguished by the weave, but by the finish, the polished appearance being due to an ironing process in the manufac-

ture. Usually satin ribbons are cired, and soft faille also takes the finish quite well. Polished, metallic ribbons are stiffer than cired ribbons, but give the same effect.

Moiré has a watered effect produced by pressing taffeta, faille, or grosgrain ribbons between stamped rollers. Taffeta ribbon is not apt to wear so well as the others unless it is of good quality with little weighting.

Widths of Ribbons

Widths in millinery ribbon vary from number one baby ribbon to sash ribbon fourteen inches wide. Different types of ribbon are used for different styles of hats, and the style of the season also determines the width of ribbon to be used.

Narrow widths are used principally in bands, cockades, bow-knots, plaitings, and shirrings. These are used mainly for children's and misses' hats, though narrow bow-knots are frequently employed as a finish to elaborate flower or feather trimmed hats. Not infrequently narrow ribbons of velvet or other material are shirred flat around the brim of a large dress hat.

Wide ribbons are often used in scarf effect around the crown and also partly on the brim of sport hats. Wide ribbons are used in bow effect on afternoon and evening hats in combination with flowers or other soft trimmings. The bows may be in high loops or broad

and flat, as the lines of the hat and the styles of the season suggest. Frequently broad ribbons, especially of satin or velvet are drawn softly around the crown of a picture hat, and then through the brim, forming back streamers, or being finished in a loop.

Ribbons are either finished smooth at the edge, or with a heavy cord, or with a picot edge. Cords often serve as bands.

Bands

Originally bands were used solely in making toques and turbans over a foundation of maline or chiffon. More recently, however, bands have been used around the crowns of sailor hats and others of various shapes. This is especially true of the narrow conventional bands, or of bands made of worsted in bright oriental combinations of color.

Bands are made of various materials. On foundations of net or some other delicate material, appliqués are made of sequins, chenille, straw, or embroidery silk, either in straight rows or in a design. Sometimes two or more of these materials are combined in a band. Bands are also made of metallic material either embroidered or composed of solid pieces of metal joined together. Some bands are made of white, jet, steel, or iridescent beads strung together or embroidered in a design on the usual foundations. Half bands are similar in construction, but are usually

of less conventional design and are used as appliquéd motifs. Flowers are appliquéd on bands.

Ornaments

Trimmings known as ornaments comprise buckles, slides, cabochons, pins, and motifs of jet, steel, rhinestones, mother-of-pearl, beads, soutache braid, tapestry, gilt, silver, oxidized metal, copper, ivory, and crystal. Many of these ornaments, particularly those made of sequins or scale jet or jet beads, imitate wings, leaves, roses, and other objects. They are appliquéd on net, maline, or velvet.

Among the most novel ornaments may be mentioned emblems and objects typical of certain countries or historical facts and periods. Even human figures are reproduced in tapestry and wool or silk embroidery to be appliquéd on sport hats. Some of the more delicate ornaments are used as a finish at the base of the feather on feather trimmed hats. Ornaments when used with ribbons are popular on tailored hats. Quills of celophane are used. Copper is often seen on bows.

Embroidery and Painting

Recently hand-embroidery, painting, and stenciling have been used more or less in trimming hats. The embroidery material is silk floss, wool, yarn, or metallic threads. Polka dots, cross-stitching, and other de-

signs have been used. The painting has been in thin color, of bird and flower designs, showing a strong oriental influence. Bamboo straw takes paint well. Usually when conventional or formal designs are used, the hat will remain attractive longer and one will not tire of it so quickly. The naturalistic designs reproducing pictures or scenes are less artistic. Silver or tinsel ribbonzene decorates effectively.

Other Trimmings

Lace, when employed in millinery, is generally used either as the foundation for a whole hat or as the sole trimming. Valenciennes lace is used in the form of rosettes; Mechlin, Chantilly, filet, and other thin laces as draperies; shadow, oriental, and other similar laces as the designs require. Soft gauzy silk maline is satisfactory both for a hat foundation, a trimming or a drapery, as well as for a veiling over other trimmings. Maline trimming looks well in the form of bows, choux, plaitings, and other effects. It is admirable for veiling and softening a strong color. Metallic cloth is used both as a foundation and as a trimming, principally in bows, hand-made flowers, little standing novelties, or appliquéd motifs. Fringe and tassels are sometimes popular.

Fur Trimmings

Fur of all kinds is used in strips in trimming; less frequently in tufts and other forms.

Chapter XI

CHOOSING A BECOMING HAT

Importance of the Choice

The chief requisite of a hat is that it shall be becoming. Some people find it very easy to select a becoming hat; others hunt for one in vain. Many people do not wear the hat most suited to their coloring, their clothes, or the shape of their heads and features. Unless special attention has been given to the study of these things the disturbing element may not be noticed, even though the effect as a whole is unpleasing.

Good Taste

It is current opinion that "good taste" or a sense of what is becoming in clothes and hats is inborn, and that those who lack this desirable faculty have no alternative but to do the best they can and to depend on the variable advice of others. Perhaps the majority of people belong to the second class, but it is comforting to know that it is possible to cultivate one's perception of beauty in form and color by study, observation, and the knowledge of a few simple rules that generally

hold good. "Good taste" thus becomes an acquired trait.

The Cause of Bad Taste

When we see about us all our lives mediocre or poor taste rather than beauty in architecture, household furnishings, wallpapers, and carpets, it is small wonder that we often choose wrongly when it comes to our clothes. We think of the clothes themselves and forget that they should chiefly be a background for our persons. Do we realize, for instance, that a mere change in the line of a collar will change the whole appearance of a face?

It would be fascinating to take up the questions of line and color with regard to the whole costume, but in this and the next few chapters only the lines of the head and face are studied as these are the important ones in choosing a hat. However, a mastery of these principles will enable one to carry the study further, and perhaps to dress more becomingly.

The Duty of Women to be Beautiful

It is the duty of every woman to attire herself as charmingly as possible, for the pleasure of her friends and all who come in contact with her as well as to aid her advancement in any calling. It is hard not to be self-conscious when unsuitably dressed. It is embar-

rassing to feel either that clothes are not becoming or that the costume selected is inappropriate for the occasion.

Importance of a Hat in a Costume

One jarring note in a costume will spoil the effect of the whole, and frequently this jarring note is the hat. By paying a high price one can usually secure a becoming hat, but there are many people who do not wish to pay a high price and yet want a satisfactory article. It takes more skill to make a good choice in an inexpensive hat because the designers and the milliners who make such hats are not high-class workers and the materials from which the hats are made are not of the first quality.

Materials count less in millinery than style. A customer is apt to care less about the hat's wearing qualities than about its style and becomingness. These are the chief requisites in her mind, no matter whether she admits it or not, though most women do admit it quite freely.

The Saleswoman's Part in Selecting a Hat

The average salesperson knows this and her chief exclamations as she tries hats upon her customer are, "How well that suits you," "How pretty that looks on you," "This is becoming." Remarks of this sort,

however, are so often accompanied by an unbecoming hat, one which the customer knows is not suitable to her, that customers are apt to be cynical and no longer believe the saleswoman's statements. The only remedy for this distrust is for the salespeople to know *why* a hat is becoming or the reverse, and then to be truthful in the matter. One remark setting forth the good points of the hat and calling attention to the becoming features would prevent the loss of many a sale and save the customer from fruitless wandering among the stores with the idea that she is hard to suit.

If saleswomen cultivate their observation and judgment of pretty and suitable things, this knowledge will not only bring them pleasure but will help them to build up a following of customers who have confidence in them. Rare is the salesgirl who does not have at least a few customers who ask for her because they like her personality and prompt attention, but the woman who is in demand chiefly for her good judgment, and who is a recognized authority, has countless followers and success attends her.

Line and Color in Millinery

Good lines and the right choice of color or of color combinations may seem to be matters of accident, and one time in a hundred they may be, but the other ninety-nine times they are the result of careful study

and observations. One salesgirl was sent by her store in the Middle West to study costume designing in New York because she took such an interest in advising customers as to colors and ways of making the silk piece goods she sold that the store wished to make her a service specialist.

Observation and Study of Dress

The woman who wishes to acquire excellent taste must be observant of all she sees, especially in matters of dress. When she sees a passer-by, she might ask herself: "Is that the most becoming costume that woman could wear? Could I suggest any little improvement? Is the color of her hat the best for her complexion, eyes, hair, and costume? What kind of hat would I choose for her?"

At first your criticisms will be mostly destructive and you may think that nine people out of ten are poorly dressed, but as you study the problem your criticisms will grow more constructive and you will think of changes for the better in the things you observe. As you think of your friends, have you noticed that some of them are more observant than others, that maybe one of them gets more pleasure than others out of a window, a shopping tour, or a walk on the avenue and that her quick eyes miss nothing of interest? It is just this quality of quick observation and alertness

that should be cultivated in studying the scientific principles of becoming dress.

Style in Millinery

Style is an important element in millinery, but that alone should not decide the choice of a hat. The argument for style, though a good one, ought not to be made the chief or only one, for there are many stylish hats in every display and it is quite possible to choose one that is becoming as well as stylish.

It often prejudices a woman when a saleswoman displays a hat with the remark, "This is very stylish," or "This is very dressy." The saleswoman should give reasons for her statement, or she misses an opportunity and fails to impress the customer with her knowledge and good judgment.

Women are interested to know what is new and in the best style, and most of them glean this information from their observations in the stores and from the assertions of salespeople rather than from fashion magazines and papers. Do not real articles make more impression on you than pictures of them?

Change in Styles

On the other hand, styles change very rapidly in the Millinery Department, and therefore the saleswoman should be careful not to be too much influenced by

what is new. It is easy to become tired of hats that have been in the department for some time and consequently to neglect them and to push only the "very latest." This complicates the manager's problem of slow-moving merchandise.

The salesperson with natural or cultivated good taste does not fall into this habit, because she is more interested in what is beautiful than in what is merely new. It is well to see and observe the new things and to decide about them, considering what type of person ought to wear this hat or that, perhaps having such accurate taste that one can think, "This is the very hat for my customer, Mrs. S.!" One might then call up Mrs. S. about it, provided one knew that she would like the attention, and thereby make a sale as well as render a service. This method of making sales is practiced far more in other departments than in the Millinery Department.

Extreme and Conservative Styles

Another consideration in regard to style is the purse of the customer. If she intends to have a number of hats, she can afford to purchase one that is rather extreme in style because she will have several changes. To be very stylish, a hat must be rather distinctive, but one quickly tires of something that is rather extreme unless one has something else to change to.

Suitability

Of the Millinery Department in a large and successful store, many women say: "The only trouble with that millinery section is that none of the salesgirls know what is suitable. They try *anything* on you." The department evidently lacks a right adjustment to its customers, a personal feeling of good taste and helpful service. The fact that for building up a permanent trade a satisfied customer is worth more in the long run than a sale, has not occurred to one of those salespeople. Each one is working very shortsightedly to fill up her book for the day, not to increase her individual sales on the morrow.

Putting One's Self in the Customer's Place

Have you ever been shopping yourself and had something shown you that appealed greatly to the one who was displaying it, which suited her fancy, but did not agree with your idea at all? The saleswoman who was waiting on you was not able to put herself in your place? She was deficient in judgment, although this is a quality which anyone can cultivate.

What Constitutes a Suitable Hat

To be suitable, the hat purchased must go well with the suit or dresses to be worn with it, and a distinction must be made as to its purpose, whether it is to be

used for street, afternoon, or evening wear, or for a combination of these.

Suiting the Age of a Customer

Another important consideration in choosing a suitable hat for a customer is her apparent age. Have you sometimes seen young girls wearing hats far too old for them, or an older woman made almost ridiculous by one too frivolous for her, one that tended to accentuate her age by contrast with its own youthfulness of appearance? Suiting a hat to a person's years requires a knowledge of color, of line and of form, which we shall discuss later; with such knowledge anyone can decide whether or not a hat is suitable to the age of the wearer.

Actively Becoming Hats

One very well-dressed woman, whom it is always a pleasure to look at, said one day: "I never buy anything because it is becoming. It must be *actively* becoming. I must look better in it than without it. It must *add* to my appearance." Are any of your articles of clothing of this nature that they make you seem even better looking than you are, that is, subdue your indifferent points and bring out the good ones? It is a good test question to ask yourself when you are trying hats upon yourself or upon anyone else: "Is this *actively* becoming?"

No two faces are alike, any more than two personalities. Every woman wants a hat that is distinctive. It may occasion Mrs. Jones a great deal of pique if she finds that her neighbor Mrs. Henry has a hat exactly like hers. So the Millinery Department puts the appeal of exclusiveness above all others, and in addition strives to present so large a variety of becoming hats that every customer can make a choice suitable to her age and appearance.

The Most Important Elements in Choosing a Hat

Color and form are the most important elements to consider in choosing a becoming hat. While the quality of the materials, their softness and gloss, influence the appearance of a hat a great deal, these are not so essential to its becoming appearance as are color and form. Color is the simpler of these two elements for most people, because it is only a matter of persistent eye-training.

Chapter XII

PRINCIPLES OF COLOR *

Importance of a Knowledge of Color to the Salesperson

Color is a matter of very great importance in connection with many varieties of merchandise. In order to judge textiles, china and glass, art embroidery, draperies, rugs, ready-to-wear garments, millinery, and many other varieties of merchandise intelligently, some fundamental knowledge of color is essential. The accepted theories of color and color combinations are therefore given here briefly.

Combinations of Colors

There are two ways of combining colors which produce quite different results. They are:

The combination of colored lights.
The combination of colored pigments or dyes.

When different colored lights are combined, the result is a combination of the two colors. When colored pigments are combined, one color seems to absorb or

* This chapter, containing the essential principles of color, was prepared by the editor and appears in several of the manuals of this series.

counteract the other. One explanation of the difference is that the pigments are never perfectly pure, that is, they contain elements of other colors and therefore cannot give the same result as a combination of the similar colored lights.

All colors are produced by the effect of light upon the nerves of the eye, and as the eye sees them, colors are contained within the light itself, forming when united a white or colorless light, as in sunlight. It is only when part of the light rays are in some way absorbed or intercepted that we see the remaining rays as distinct colors.

The Spectrum

Nearly every one has seen the band of beautiful colors which is formed by a beam of sunlight passing through a prism. The same effect is produced when the sun's rays pass through the raindrops and we see the beautiful band or rainbow of colors in the sky.

The theory is that as the beam of sunlight passes through the prism, it is separated or split into the elements of which it is made up and forms a band of colors instead of a white light. This band of colored light is called the spectrum, and the colors, whether seen through the prism or in the rainbow, are known as the spectrum colors. They are red, orange, yellow, green, blue, and violet. But when we see these colors,

either in the rainbow or through the prism, there is every gradation from one color to the next so that the change from one color to the other is almost imperceptible. For instance, the red changes through the different degrees of red-orange to orange, and this changes through the orange-yellows to yellow; the yellow changes through the yellow-greens to green; the green changes through the green-blues to blue; the blue changes through the violet-blues to red.

Standard Colors

The colors of the spectrum are accepted as the normal or standard colors: red, orange, yellow, green, blue, and violet.

These normal or standard colors are represented in each case by the greatest intensity of the color. For instance, the standard red is the most intense red, the standard blue is the strongest blue, and so on.

While the spectrum has six colors which seem to be of equal importance in the ray of light, we find that in mixing pigments or dyes they fall into two classes called primary and secondary colors.

Primary Colors

The primary colors are so individual that they cannot be produced by any mixture of other colors. They are red, blue, and yellow.

Secondary Colors

Secondary colors may be made by mixing two of the primary ones. They are:

Orange, made by mixing red and yellow.
Green, made by mixing yellow and blue.
Violet, made by mixing blue and red.*

Characteristics of Primary Colors

Of the three primary colors, yellow is the most "advancing," that is, seems to stand out from its background. It is nearest to white and possesses the greatest power of reflecting light. It imparts brilliancy in a greater or less degree to every compound into which it enters.

Red is the most positive. It represents warmth as it is brilliant and cheerful, and it appears to advance somewhat. Red expresses vibration, action, and warmth.

Blue is the most "retiring" of the primaries and represents coldness, appearing to recede from the eyes. It imparts coldness in various degrees to every color or hue into the composition of which it enters.

* There are several theories concerning the number of primary colors in light, but they do not alter the fact that blue, red, and yellow cannot be made in pigments or dyes by combining other colors; while the tints, shades, and hues of all other colors except blue, red, and yellow may be made by means of such combinations.

Characteristics of Secondary Colors

Of the secondary colors, green, composed of the primaries blue and yellow, is cool or warm as it inclines to blue or yellow. Yet in general it is cool, cheerful, and refreshing.

Orange, composed of yellow and red, is the most "advancing" of the secondaries. It is composed of two luminous colors and is considered the warmest and most powerful of all the colors. It should therefore be used sparingly.

Violet or purple, composed of red and blue, is the darkest of the secondary colors and is related most nearly to black. It reflects very little light and looks still darker in a declining light. It is a retiring color and, although red enters into its composition, it cannot be classed as a warm color except in its redder hues. In yellow artificial light, such as gaslight, it appears brown. Next to green, purple may be considered the most pleasing of the secondary colors and has almost universally been considered the royal or imperial color. It is probable, however, that the Tyrian purple, of which we have heard so much, approached a crimson or red, rather than the deep and subdued color known as purple today.

Luminous and Somber Colors

Colors are also described as:

Luminous or warm:

Yellow
Orange
Red
Light green

Somber or cold:

Blue
Violet
Dark green
Broken tones of luminous colors

Broken Colors

Tertiary or broken colors are not found in the spectrum, but may be made by mixing two secondary colors. They contain all three primary colors in unequal proportions and are named according to the predominating color:

Russet, orange plus purple — red predominating.
Olive, purple plus green — blue predominating.
Citrine, orange plus green — yellow predominating.

Besides the compound colors called tertiaries, there are many other hues into which the three primary colors enter. Among these the most characteristic are brown, maroon, and gray.

Brown requires black for its basis, with a mixture

of citrine and olive. It is a retiring and sedate color, but not dismal nor depressing.

Maroon is formed by a mixture of russet and olive, with an excess of red.

Gray is always restful to the eyes. A perfectly neutral gray which forms the perfect background for other colors, is a combination of black and white. Besides the neutral gray, there are many others, as blue-grays, olive-grays, and green-grays, formed by adding other colors.

Black and white make gray in whatever combination they are used.

Absorption and Reflection of Color

The color of any object is due to its power to absorb certain colored rays in white light and to reflect others. An object which looks red reflects only the red and has absorbed the other colored rays. A blue body reflects the blue and absorbs all other rays.

White substances reflect all the rays of light; black substances absorb them all. For this reason black is said to be the absence of all colors, as white is the presence of all. (However, no mixture of colored pigments will produce white. The theory is true only of light rays. Mixtures of colored paints will produce gray.)

By its absorption of light rays, black lowers the tone

of any color placed next to it. Some colors, such as yellow, it "impoverishes."

By its reflection of all light rays, white heightens or brightens the tone of any color which is placed close beside it.

Complementary Colors

The color rays absorbed by any substance "complement," or complete, the ones reflected in making white light. Therefore, they are called the complementary colors.

The complementary color of:

Blue is orange.
Red is green.
Yellow is violet.

In the diagram (Figure 7) the complementary colors are found by following the various lines across the circle to the opposite outer edge.

These colors are sometimes supplied by the nerves of the eye itself which are wearied by looking too long at one hue. This may be proved by a simple experiment.

If a circular piece of red paper is placed on a white background and looked at steadily for a time, and then the eyes are turned toward a white surface, a green circle exactly corresponding in size to the red one first

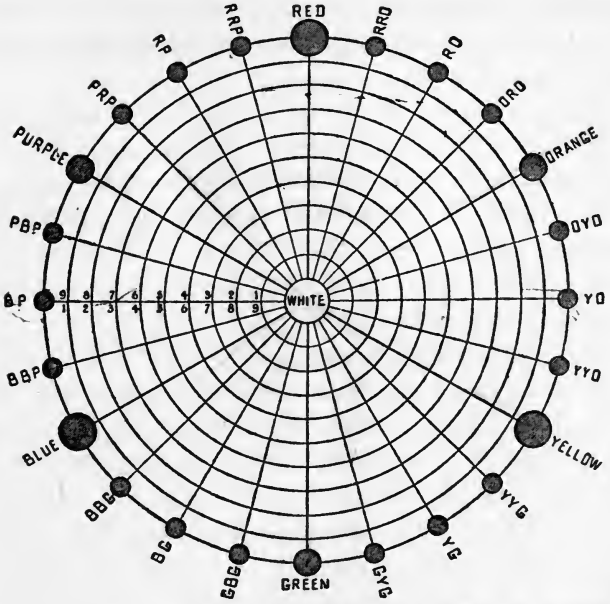
seen will appear. A blue or a yellow circle will produce their complementary colors in a similar manner.

This exhaustion of the nerves of the eye also causes a color to appear duller after one has looked at it a long time. If the nerves are rested by another color — especially the complementary one — they will become normal again.

When the complementary colors are reflected from another color rather than a white background, they change the hue of that color.

To eyes which are fatigued by looking at blue, red will appear like an orange-red, yellow will be more intense, and green will appear as a yellow-green. If red has been looked at, blue will appear as a green-blue, yellow as a green-yellow, and green will appear blue. After green, red will have a violet appearance, yellow will be more like orange, blue will be a violet-blue, and orange a red-orange. These are matters of great importance in the display of merchandise. The following rules should be remembered:

Red near blue seems yellower.
Red near yellow seems bluer.
Red near green seems purer and brighter.
Red near black seems duller.
Red near white seems brighter.
Red near gray is not changed.



From "Color Harmony in Dress" by Audsley, by courtesy of Robert M. McBride & Co.

Figure 7. Diagram Indicating the Primary and Secondary Colors with Their Hues, Tints, and Contrasts

Other colors are affected in similar ways.

These effects are produced by the natural tendency to see the complementary of any color, which in the case of green intensifies the red and in all the other cases changes its color by mixing their complementary color with it.

Properties of Color

Colors may be distinguished according to their hue, their value, and their intensity.

Hues

The word hue may be used in three ways.

In writings on the science of color hue signifies the property which distinguishes one color from another.

In common speech it is employed to mean a particular shade or degree of color.

The word is correctly used when applied to the modification of one color by the addition of another color. Thus, red-violet and blue-violet are hues of violet made by the excess of red or of blue. In the diagram the hues are found between the primary and secondary colors. Still further divisions are possible.

Values

The value or tone of a color is the gradation from light to dark by the addition of white in the lighter tones and of black in the darker ones. A tone lighter than the standard is properly called a tint, and one darker is called a shade, but many people call both tints and shades " shades." Rose color is a tint of red, while crimson is a shade.

In the diagram the concentric circles represent the tints produced by adding varying amounts of white;

the numerals above the line represent the parts of color; those below, the parts of white.

Color Scales

The scale of any color, whether it be a pure color or a hue, consists of all the tones from the lightest tint to the darkest shade. There are, for instance, scales of green-blue, purple-blue, and gray-blue.

Intensity

Intensity is the strength of a color. The normal or standard colors are in full intensity. The intensity of a color is reduced by "graying" it with its complementary color. By the addition of orange to blue, or of green to red, the color may be subdued to half-intensity or quarter-intensity, and so on. If a large amount of the complementary is added, the original color will be reduced to a dull gray.

Color Harmonies

Harmony in the combination of colors may be of two kinds:

1. Harmony of contrast.
2. Harmony of analogy or likeness.

Harmony of contrast is between colors which are most unlike each other. It is perfect when the colors are complementary. Blue and orange, or red and

green, are perfectly harmonious, one of the reasons for the pleasant sensation being that each one deepens the color of the other and makes it purer. The true contrasting color of any color may be found by following the cross lines in the diagram. The harmony of complementary colors is very bright if the colors are in full intensity. Grayed or broken tones make a quieter harmony.

Harmony by contrast may also be secured with the hues on each side of the complementary color, as blue with red-orange, or yellow or red with blue-green or blue-violet.

The harmony of analogy or likeness is between colors of the same or related color scales. They may be:

1. Different shades or tints of the same scale, as light red and dark red.
2. Different hues of the same color, as blue-green and yellow-green.

The first is sometimes called a mono-chromatic or self-color harmony. The tints or shades combined should have enough variety to be distinct, but should not be so different as to lose their likeness and form a harmony of contrast. On the diagram these harmonies are shown along each line from the full color to white.

A dominant harmony may be formed by the use of a number of hues of the same color, as yellow-green, gray-green, and blue-green, which blend because green is dominant.

Color Under Artificial Light

All colors undergo more or less change under artificial light.

Under gas or lamplight, which is much yellower than daylight, purples and violets often appear brown. Some of the darker hues are almost destroyed.

Blue is darkened.
Brown is made warmer in hue.
Green is yellower.
Red, orange, and yellow are all brightened.

The inverted gas mantle gives a somewhat less yellow light, and therefore these effects are somewhat less pronounced.

The incandescent electric light gives a violet hue to blue, and a reddish hue to brown. It seems to add some red as well as yellow to colors.

The arc light and Welsbach gas mantle have an excess of blue, which is imparted to colors.

Chapter XIII

COLOR IN MILLINERY

Commercial Names of Colors

In the field of color it is hard not to be overinfluenced by the merely fashionable. There are usually several stylish shades from which one may choose, and if none of these are becoming, it is far better to get something that is becoming, even if it is not the "very latest."

Every year the Color Association brings out new color cards, naming these colors just as they choose. It is not essential to learn all of these names, but it is helpful to know the leading ones of the year in case customers ask for them, and also because women are always interested in the new names.

The name generally suggests something familiar; for instance, battleship gray, grass green, or peacock blue. Some names last for many years and some are not well known even for one season. The names do not change the colors and it is more important in studying color to be able to see, for instance, that a Nile green is a green with a little blue in it than merely to know it by the name of Nile green. One person

may look at a hat and say that it is violet, while another may note that the violet is not pure but has a reddish tone.

No colors in materials or dyes are really pure; there is always a slight admixture of some other color. In red found in fabrics, for instance, there is always a little blue and yellow. The only really pure colors are found in the rainbow and the prismatic spectrum. The mixtures of color and the resulting tints and shades are much more varied and pleasing for general use and much more becoming than the pure, strong colors would be. Altogether, the rainbow hues and the shades and tints that can be made of these number about 3,000 to 4,000 known colors and color tones.

It is small wonder that new tones can come out every year and the supply still remain unexhausted. Since there are so many possible color combinations, it is impossible to know all the fancy names. But it is possible and most useful to be able to tell the composition of each color tone; that is, what its basic color is, and just how large an amount of black or white there is in it. This ability, though it is often unconscious, is essential if one is to become a good judge of color.

The head of a very successful dressmaking establishment once said: "I don't care what a color is called. I want to be able to see what it *is;* to analyze

it." She found this power of analysis important as a first step in deciding what would go well with a certain color. There are a number of laws that are helpful in determining this.

Training the Sense of Color

Does everyone have a changeless instinct for color from the beginning? A baby reaches for colored balls, especially for the gayest and brightest. Primitive peoples and peasants show their love of bright, vivid colors in their adornments and dress. Very young people instinctively like gayer, unsoftened colors better than older people do.

This, therefore, is a reason for not allowing one's color sense to stay at a standstill, because with cultivation the taste for color becomes more refined. An uneducated taste prefers combinations of bright colors, but as the eye becomes trained it sees more color in tones it formerly thought dull. Think of a young boy's choice of neckties when he has his own way!

Yet bright colors are not to be condemned by any means. Sometimes a small violet or scarlet hat is just the touch needed to complete a certain costume. However, it takes a trained eye to know just when and how bright colors may be worn, for they are far more difficult to choose and arrange than more quiet tones.

Questions of Taste Solved by a Knowledge of Color Harmony

Color harmonies are not, however, matters of individual taste, but based on scientific laws which may be learned by everyone. The saleswoman in the Millinery Department can learn to make the right combinations when she knows these laws and has trained her taste. Every day questions arise which can be solved by a knowledge of the laws of color. For instance, what color would you choose to make a sallow complexion look a little pinker? What colors will bring out the gold and yellow in blond hair? In choosing becoming shades the hair, eyes, and complexion all have to be considered, as all are affected by the choice of a color.

It is remarkable how the right color in some cases will make even the eyebrows appear to great advantage. In a color class two shades of brown were tried on an auburn-haired girl with beautifully penciled eyebrows. One of them called no attention to her eyebrows, while the other showed their beauty. Both shades were equally becoming in other respects.

Bringing Out the Best Features in a Face

In some faces you wish to call attention to a good feature, or to hide a bad one. The right color will either bring out or subdue lines. Suppose tan and

putty tones happen to be in vogue. How many people there are who should never put on such colors, since their faces have not enough natural color to counteract the yellow and gray effect.

Good flesh tints cannot be brought out by colors which, working according to the law of complements, make the complexion look blue or green.

Reflection

In one way only is there an offset or exception to the effects of complements, and that is when there is a chance for reflection. Only when the materials near the face are glossy enough to reflect their color upon it, will this action counteract the law of complements and produce the effect of the same color that is worn.

With a little practice you can see cases of reflection and even produce the effect yourself when it is needed. Perhaps the under brim of a hat, where reflection frequently works, is the best illustration in millinery. If the under brim is silky or glossy enough to reflect its color upon the face of the wearer, this effect will be obtained rather than the effect of the opposite or complementary color.

Reflection often makes gray or nondescript eyes look dark blue.

Characteristics of Colors

As you think more about colors they seem to develop

distinct characteristics and each color gains a vivid meaning.

Red

Red is a stimulant which livens its surroundings. It attracts attention, is cheerful and agreeable. Used in small quantities it is one of the prettiest of costume decorations. It is the color of fire and warmth and seems more suitable for winter than summer wear. The darker tones of red are apt to be becoming to both blondes and brunettes, especially to those with a clear complexion. Bright red, however, will bring out any greenish hue in the skin. It is not at all becoming to those with auburn hair. A red-haired person cannot wear pink unless it is softened or veiled in some way. The broken hues of red, such as russet or maroon, are safer.

The trouble with a stimulant is that one is apt to grow tired of it in large quantities. This is especially true of red. One is likely to grow tired of a red dress or hat long before it is worn out, and if a person is to have only one hat it is not wise to choose a red one.

To some people red is so intense and exciting as to be disagreeable. Pure red should not be combined with yellow or orange, but rather with blue, blue-green, and green. All these combinations are better if one,

or both, of the colors are half-intensity or softened with neutrals.

Red is easy to match in artificial light as it changes very little.

Orange

Orange is a gay color, warm and bright, stimulating and exciting. It must be used very carefully, as a little of it goes a long way. Can you think of many people to whom it is becoming? It is usually very trying to wear, because it is so intense and gives the skin a bluish tinge.

Broken tones of orange are more becoming to brunettes and auburn-haired people. A blonde has a good deal of yellow, cream, and tan already in her coloring and the intense brightness of the orange makes them look dull and faded. Besides, the stronger tones of orange clash with the shades of her hair.

Orange combines poorly with red and only fairly with red, violet, and green, but well with blue, blue-green, and blue-violet.

Yellow

Yellow, like the sunlight, brightens everything it touches.

Broken tones of yellow make tans and browns also,

of a less warm tinge; these hues are easier to wear than pure yellow, which is trying to the complexion. The cream tint of yellow is very becoming, and most people look better in a cream-colored hat than in a pure white one.

Yellow is apt to be more becoming to brunettes than to blondes, unless it is greatly softened. It combines well with violet, purple, dark red, and blue, but is not so pleasing with orange, scarlet, blue-green, or green.

Green

Green is cool, refreshing, and restful, reminding us of the grass and trees, and perhaps because nature shows us that it is a wise choice, we use it in hats and clothing. The deeper, richer tones are usually expensive in imitation foliage and in straw, as the dyes are costlier.

Shades of blue-green are said to be the most flattering of all colors. Blue-green brings out the complementary color of soft pink in the cheeks of the wearer. It seems to eliminate the yellow and to clear up the complexion, and thus makes the skin look whiter. It is particularly becoming to those with pale skins, and so it is worn a great deal in the southern part of the country, where the warmth, too, makes a cool color pleasing.

The only persons who should not wear this color

are those with very bright red cheeks, or florid complexions. No wonder we find so many hats in this color, or trimmed with it, perhaps correcting another color that is more difficult to wear.

Green is difficult to match and changes somewhat in artificial light. Other colors go well with certain shades of green, especially with a soft grayish blue-green, but pure green is somewhat hard to combine well, particularly with other tones of green. It is good with violet and just the right shades of blue and green are beautiful together, but often the wrong hues are chosen.

Blue

When one thinks of blue one thinks of the distant hills, the lakes, the ocean, the sky. Even the air seems cooler.

Blue is perhaps the most popular of all colors for wearing apparel, as it seems to bring out the character and delicacy of a face.

Blue is becoming to blondes, because its complementary, orange, combines with their rose or cream-white coloring to make a delicate flesh tint. Pale brunettes should not wear light blue, because it gives a tint of orange yellow to their darker complexions.

Blue is a restful color to choose and one does not

grow tired of it. In the brighter and lighter tones and in the cheaper grades, blue straw, ribbons, and other materials are apt to fade.

Blue is one of the hardest colors to match under artificial light and the results cannot be trusted, as blue looks duller in any light which has in it an excess of yellow. Blue in its darker tones combines well with scarlet or red, and light blue with yellow or orange, but not with violet.

Violet

Violet is a cool, summery color, yet not too cold, especially if it is a red-violet. It is becoming to people with fair, rosy complexions. The blue-violet shades are more becoming to auburn hair than the red-violet ones. The latter combination is daring and too often misses being just right. Violet combines well with orange, yellow, and blue-green, but poorly with scarlet or red, and is not so good with orange as with yellow. The becoming effect of violet usually depends upon the amount of pink in the complexion. It brings out the yellow tinge in a pale or sallow skin.

We used to associate violet with old ladies, and it was the only color that elderly people were supposed to wear with dignity. While it is a very dignified color, the symbol of royalty, our ideas have changed in recent years and we are pleased not only to see chil-

dren in lavender, but also to see elderly people in blues and even brighter colors when they are becoming.

Variety in Color

An old saying, " Variety is the spice of life," is nowhere more true than in the world of color. How tired we should become of always seeing equal proportions of colors used together. Rarely is a hat made and trimmed with equal amounts of two or more colors, and if it is, these are so arranged as to produce a varied effect. The rule that varying amounts of color are attractive generally holds good.

Variety is pleasing not only in the amount of color but also in its degree of darkness. If two colors do not look well together, by taking a tint of one and a shade of the other, and perhaps softening one or both with gray, white, or black, the two will make an attractive harmony. A light green may go beautifully with a dark blue, or a pink with a violet, whereas the full green or red might not have looked so well. Many illustrations of this law of variety may be found in hats, especially in their trimmings.

The most economical way to dress is to find the one or two colors that are the most becoming and to stick to those in choosing wearing apparel. Then everything matches. Many people choose dark blue, which is generally becoming. If you have a customer who

needs to be economical you can help her in this way, and try to influence her against getting something that will not do to wear with her other clothes.

Restfulness of Neutral Colors

A neutral color, like a neutral person or nation, is one which favors nobody and supposedly gets along well with all. Black, white, and gray are the most important neutral colors. Strictly speaking, white is not a color at all but just light, and black is the absence of light. Any colors can be combined with them and for this reason they are very widely used in millinery.

Neutral colors are restful and quieting to the eye. They do not stimulate the optic nerves unduly except in dazzling whites or in extreme combinations of black and white, which always make a striking effect. In choosing a hat to show to a customer who wears a bright colored suit, it is well to select a softening neutral. The hat may have a touch of bright color to match the suit.

As a rule neutral colors do not attract attention and that is why most stores require their employees to wear them. It is also the reason why, in arranging hats for display, good decorators make neutral backgrounds in order to bring out the colors of all the hats to greater advantage, and yet avoid inharmonious effects.

If two colors do not go especially well together, a touch of black with them or their entire separation by the use of black or white will soften and harmonize the combination, and perhaps make each more effective.

Other neutrals which are much used in hats are colors with a good deal of black or gray in them, such as brown, green-gray, and tan. Yellow is a color that goes well with almost every other, especially when softened to a cream, because yellow is near white in lightness and, like gold or the sunlight, tones in with everything. Many straws are either tan or yellow, and the natural straw harmonizes well with any color of trimming.

Neutrals in dress and hats are at least safe, although if untouched by brightening colors they are apt to appear somewhat sober. A certain distinction may often be seen, however, in hats of black, gray, or white where the absence of color only emphasizes the beauty of the graceful and unusual lines.

Combinations of Neutrals with Brighter Colors

Study the effect of neutrals in combination with other colors. It may take weeks to train the eye to be really observant of color. Like any other faculty, it can be developed greatly by training. When you have leisure as on a rainy day, study the hats in your department.

Note what neutrals are lightened by bits of color or what colors would be improved by the use of a neutral in combination. Skilful designers place a neutral color, often white or cream, about the neck of a dress or under the brim of a hat, in order to make them more becoming.

How to Train One's Self in Color-Taste

One of the most successful ways of training one's self in color-taste is to try hats upon one's friends. It is remarkable to note the actual changes in the appearance of hair, eyes, and complexions with different colors. There is a useful old saying, "Match your eyes for the house and your hair for the street," but it cannot be applied indiscriminately.

Each of your friends represents a type of the customers who will come to you, and with this practice you may learn the colors to suggest to them. And since you are often required to plan the trimming of hats, note everywhere about you the effects of combinations of color.

In the rack of hosiery or of ties in the store, have the articles been hung in the way that you would hang them? Would the change of one or two improve the effect of the whole? The pretty effect of a display is often ruined by just one clashing color. What colors seem to you to clash? Do not believe what you

are told by others in this respect but test the matter for yourself.

By persistent study you will surely increase and develop your good taste. The reward of paying greater attention to color combinations is immeasurable. So many people wear unbecoming colors because they know nothing of color effects.

Some day, perhaps, every woman will find it easy to obtain this information to aid her in dressing; until then the intelligent saleswoman should be able to impart it to her customer. The customer may, of course, ask for and prefer unbecoming colors, but this happens very rarely. She is usually more than grateful if her time is not wasted in trying on hats which are not suited to her coloring.

Chapter XIV

FORM OR SHAPE IN MILLINERY

Choosing a Hat

"I think I'll get a tricorn," said a friend of mine, and a tricorn she bought forthwith. In this way many people decide the shape of the hats they wear. "I want a large-brimmed hat or a poke," one thinks and tries to find the prettiest hat of the type previously decided upon. This method does not always result in securing the most becoming hat, unless from previous experience the customer first considers what shape is best suited to her face. In addition to the question of color, there is the equally important problem of the lines of the hat. It is necessary to fit the hat to the head to determine its becomingness.

Importance of the Lines of a Hat

The power of the line is almost inconceivable. Faces seem to grow shorter or longer, fuller or thinner, noses appear to raise or to lower their tips, and even eyes seem to grow slanting or straight, large or small, under the influence of the shape of the hat.

One artist says of hats: "The funny punch in the brim may bring out all the gayety of a face; the long, soft droop may accentuate its pathos; the jaunty upfling on the side may give it a sudden brave note," whereas: "the wrong line may accentuate in a face, not its bravery but its coarseness, not its prettiness but its pettiness, not its pathos but its heaviness."

The science of this witchery of line is elusive and only generalities can be stated concerning it, but the same persistent, alert observation and effort by which your eye for color is cultivated will develop sensitiveness to the magical influence of a line.

The shape of the hat may be analyzed under several headings:

1. The relation of the parts to each other.
2. The kinds of lines, curves, and angles, and their relation to each other.
3. The relation which the form of the hat bears to the different proportions of the faces and heads of different individuals.

Relation Between the Parts of a Hat

The relation of the parts of the hat to one another has to do with the amount of trimming and the size of the brim in proportion to the crown.

There should be the right proportion between the width of the brim and the height of the crown. A

poorly proportioned hat may look top-heavy or too much like a pancake. However, rightly arranged and massed, trimming may correct this fault in a hat.

Another way in which a hat may offend the eye is by the appearance of too much weight at the back, front, or side. A hat should look as though it would stay upon the head of the wearer without great effort upon her part. If an unusually large amount of trimming is upon one side of the hat body or brim or at the back or front, it should be there only to bring out or to correct something in the face. For instance, a head that is too narrow from back to front, may wear a hat with an extra mass in the back.

Lines, Curves, and Angles, and Their Relations

Lines are either straight, broken, or curved. In a hat, perfection of curve makes a beautiful shape. The curved lines should seem to flow into one another, or to grow out of one another; they should not come to abrupt stops, but go on invisibly in our imagination.

A peculiar characteristic of a line is that when the eye once rests upon it, it tends to follow the direction of the line; this is why the most skilfully designed curves seem to grow out of each other. For instance, trimming often softens into a delicate little curve the otherwise sharp angle at the base of the crown where it joins the brim. If the hat is made up of curved

lines, the trimming should follow these in order to be artistic.

If the hat has been fashioned stiffly in a more tailored style with broken lines and angles, the decorations are correspondingly stiffer, more angular, and tailored. This principle should guide one in choosing trimming. Have you not noticed as a general thing that soft, floppy hats have more curving, flowing, graceful trimmings than tailored hats, which favor straighter feathers, stick-ups, stiff bows, and other angular trimmings? Trimming which sticks right out from some spot on a hat is apt to be inartistic, awkward, and difficult to wear. Lines which curve and grow out of one another are said to have rhythm, like a flowing melody in a song. Sharp angles and lines suddenly breaking away from the direction in which the eye expects them to go are harder to handle. Certain seasons bring into favor more artistic shapes and methods of trimming than do others.

Symmetry in a Hat

If a hat is exactly the same on one side as the other, that is, if one side, trimming and all, supposing it folded over were to coincide with the other, the hat is said to be symmetrical. Such a hat is more difficult to wear than one which has different but well-balanced sides, and if slightly askew is apt to call attention to the

fact that it is not on straight. A symmetrical hat never should be worn by a person with irregular features. A very pretty girl whose nose is slightly to one side cannot wear a symmetrical hat nor have her hair parted in the middle without calling attention to the irregular feature.

Balance

By a well-balanced hat is meant one in which the weight or mass on one side balances the other. For instance, if a mass of trimming is on one side, there should be more brim on the other to balance it. Color cleverly used helps in securing proper balance. A bright bit of color which attracts the attention may outweigh a larger mass on the opposite side of the hat.

One side of a trimmed hat should appear to have the same mass or weight, if not the same shape, as the other side. Two curves of equal length are not so good as two of unequal length. Too much contrast or variance is as bad as too much similarity in a hat.

Adapting the Size and Shape of a Hat to the Wearer

All these relations of line and mass of the hat are most important in connection with the person who is to wear it. The type of her face, the size and shape of her head, and her figure must be considered.

A dainty little lady does not look well hidden under

a hat too large for her The husband of a certain woman insisted on her wearing large hats, which made her look thin, and she could not change his ideas because she did not know enough about form to convince him that he was wrong.

A large woman looks ridiculous in a hat that is either too small or too large. She should divert attention from her size by avoiding extremes.

A tall, well-proportioned woman, or one of medium height, may wear a large hat, unless she has a thin face.

A short woman should not be made to look shorter by a flat, low hat, any more than the height of a tall woman should be much increased by a high hat.

A hat that extends beyond the width of the shoulders is considered inartistic.

The lines of the hat when on the head have to be considered in their relation to the lines of the face in order to bring out good features and to make poor ones more attractive.

There are a number of general types of faces, but these are sometimes changed or modified by some unusual element in the face, head, or person, so that while the following discussion of types and the shapes of hats that suit them is true in a general way, you will wish to test its application for yourself. Study the lines of people's hats and see how they affect the

faces of the wearers. You cannot do this in imagination. The best method is to try hats upon your friends and to analyze the effect of each hat you place upon the head of a customer.

The Full, Round Face

A full, round face needs to have this fullness reduced, so that threatening fatness may look like soft, normal curves. The face needs lengthening generally and reducing in size.

For such a face a small hat is bad if it has no brim or a turned-up brim. Medium and large-brimmed hats are more becoming. (See Figures 8 and 9.)

A hat with large deep curves would probably not look so well as one with a moderately curving or a straight brim, as the curves in the face are too broad already.

A sailor looks well on a woman of this type, and also a brim turned down slightly on one side and up on the other. It is becoming to have the brim wider in front than at the sides, as this also lessens the round effect of the face.

Flat Features

The person with flat features is a type similar to the one with round features in the treatment needed, so that the same suggestions apply to her. An oval or a

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Figure 8. A Full Face Cannot Wear a Turban
Figure 9. A Full Face Looks Well in a Large-Brimmed Hat
Figure 10. A Snub-Nosed Person Should Not Wear a Turban
Figure 11. A Person with Regular Features Can Wear a Turban

round hat, unless the front is deeper than the back, increases the flat appearance of her face, but a brim wider in front would be becoming, unless she had a snub nose.

Snub Noses

To avoid accentuating a decidedly snub nose, avoid a crown of round conical shape or hats that turn up sharply in front, or that have no brim in front. (See Figures 10 and 11.) A brim of medium or large size will hide a snub nose and tend to make it look straighter.

The Thin Face

Softness can be given to the lower part of a thin face by wearing the hair low and not too tight upon the head. Waving it helps also.

A small hat with a narrow or up-turned brim is becoming to the thin-faced woman. (See Figure 12.) She can also wear large crowns and shapes that are mostly crown. However, her nose may be too sharp or too large for the up-turned brim in the front of the hat.

A thin face with a sharp prominent nose does not look well in tricorns. A large hat makes a thin face look too peaked, and small by contrast. (See Figure

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Figure 12. A Thin Face Looks Well in a Turban
Figure 13. A Thin Face Cannot Wear a Large-Brimmed Hat
Figure 14. An Older Face Needs a Hat Soft in Material and Trimmings
Figure 15. A Youthful Face Can Wear a Hat with Stiff, Straight Lines in Shape and Trimming

13.) A small hat brings out all the fullness and delicacy of curve that there is.

The oval shape, or one narrower from side to side than from back to front, is good for her. She should avoid hats with conical crowns.

The Angular

The sharp-featured face offers much the same problem as the thin face but even more difficulty, for this woman must be careful to choose a hat with no lines that accentuate the angles of her nose, cheeks, chin, etc.

Softness in the curves and lines of the hat, as well as softness in its materials, is more becoming to her.

Sharp, stiff, tailored hats are apt to increase her angularity and thinness.

Velvet and other pile fabrics, and soft straws are more becoming than stiff, glossy materials.

Age

For older people the materials and lines of the hat should be soft, in order to ease the lines of the face. As has just been said, gloss in materials usually suggests stiffness.

An elderly face cannot wear a youthful hat with the straight, stiff lines that the young can stand, but demands moderate, soft curves. (See Figures 14 and 15.)

The large, floppy style that is also becoming to youthful faces is apt to cast shadows on an older face and to make its wrinkles look deeper.

Foliage and flowers, graceful feathers, plumes, and soft ribbons make more becoming styles of trimming than stiffer forms, like stick-ups.

Sometimes you will have to suggest hats for a younger face prematurely aged, with worried, worn lines, which needs the same softening that an older face does. The old-fashioned type of stiff, little black straw bonnet or hat for older ladies could not possibly have been more unbecoming, and is rarely seen now except in cartoons of old maids. Fortunately it is the style for older people to dress more becomingly at the present time.

Figure 16. It Is Inartistic to Hide the Eyebrows

Medium Type of Face

The face which is neither too full nor too thin, with fairly regular features, can wear almost any hat, large or small, but the lines and materials of some bring out good points better than others do.

It is as much a test of skill and good taste to choose an actively becoming hat for this customer as it is to suit harder types.

The medium face, as indeed all others, usually looks better if some of the hair is allowed to show on the forehead below the edge of the hat. No matter what the style, the hair should never quite touch the eyebrows, as this destroys their pretty lines. (See Figure 16.)

Extremes

Extremes of any kind are to be avoided, as they are hard to wear and have to be chosen with great care. Americans usually modify extremes in imported French hats. Often the too boldly up-flung side of a hat brim imparts a coarse, aggressive look to the face, instead of the piquant expression a tastefully turned-up brim would give.

Whether a woman is rich or poor, it is possible for her to buy a becoming hat. It all depends upon her taste, and that of the salesperson. A general smattering of knowledge will not be of much use, but persistent, careful study on the salesperson's part along the lines suggested will not fail to develop the ability to choose tasteful and suitable hats for customers.

Chapter XV

MAKING AND TRIMMING HATS

Relation Between the Saleswoman and the Workroom

Every Millinery Department has its workroom for the alteration and trimming of hats, and expert milliners have acquired their skill through a long course of training. Some salespeople, however, may be used in the workroom between seasons to their own and the store's advantage, if they know the simpler points about custom work and have deft fingers.

Such knowledge will also help them to sell exclusive hats, as they can point out the differences between these and the more common styles. Suggestions as to the renovating of hats and trimmings are also useful to the saleswoman and appreciated by the customer.

Hat Frames

The foundation of a hand-made hat is usually a frame, which may be altered from a factory-made frame or made entirely by hand. Hat wire and willow make a simple and practical foundation which is much used. If a frame is to be made entirely of wire

and then covered with crinoline, frame hat wire, fine tie wire, and a pair of pliers or pincers are necessary. Measurements are marked on the inside of the hat to be copied, such as the outside edge of the brim, the width of the brim in the front, sides, and back, the depth of the crown, the diameter of the tip of the crown, the size around the top, and the size of the base of the crown. In instructions given for making hats, these are called the front brim, back, right, left, head, edge, crown, height of crown, side to side, etc. In fancy shapes other measurements may be required.

The Buckram or Willow Frame

A simple frame may be made of willow with a circular or oval piece for the top of the crown, a piece shaped like a man's collar for the sides of the crown, and a circular or oval piece with a hole in the center the size of the head, for the brim. A pattern for the sides of the crown can be made by cutting a straight piece of paper and pinning many darts in it until it fits the top of the crown and the head. The edge is wired by sewing edge hat wire with a strong thread and buttonhole stitch, around the edge of the brim, the edge of the top of the crown, and the base of the crown.

Buckram is too heavy to be much used, although formerly it was used a great deal.

The Wire Frame

In a frame made wholly of wire, the crown and brim may be made together, or the crown may be completed first and then the brim extended from that. If crown and brim are made together, a hoop of heavy frame hat wire is made for the edge of the top of the crown, and another for the base of the crown; where the hoop ends overlap, fine tie wire is used to hold them in place. Heavy wire is then used to make the spokes of the cart-wheel effect, bent at right angles over the edge of the top of the crown, and bent out again at the base of the crown (or otherwise twisted once around the wire at the base of the crown) to form the brim. Where wires are not twisted but only bent, fine tie wire must be used to fasten such crossing of wires as the work progresses. The outer edge of the brim is made by twisting the spokes once each about the frame hat wire which is being used for the edge of the brim. The ends of this wire are held together by fine tie wire as stated above. The ends of the spokes should be cut off in such a way that they do not stick up. Frame hat wire is then run around the form as often as necessary to make a firm, circular or oval shape, and a bit of the fine tie wire is used to hold the crossing wires in place.

If the crown is to be made complete before starting the brim, the crown is finished off by twisting the

spokes about the base, and cutting off their ends. New spokes then start from about an inch above the base of the crown, being twisted around the circular wire at that point and the ends cut off, and at the base are twisted or bent outward at right angles for the brim. The form is made stronger if the spoke wire is twisted instead of bent.

These frames may be covered with thin crinoline or similar material by securing with strong thread.

Bows

Some standard bows are the rosette, loop rosette, butterfly bow, tied bow, Alsatian, and fan-shaped bow.

There are a few tricks in making bows. The simple cravat bow is one that everyone knows how to make. Upon its evenness and grace depends its attractiveness.

Rosettes may be made in several ways. A common way is to fold a ribbon in ten or twelve even lengths, hold them together evenly and smoothly, and tie or sew another bit of ribbon about the center of the loops. The loops can be pulled out into various shapes, flat or stand-up.

A method which will make a perfectly uniform and even rosette, with the same side of the ribbon always out, is to measure the loops of ribbon half the length of the rosette just described, that is, not measuring for a double loop but for a single one. The ribbon will

be folded flat back and forth about twenty times. With needle and thread every other crease is caught together, forming a straight series of loops. Different effects are obtained either by drawing the threads tight at the base of the loops or by leaving the base ungathered, just sewed flat. This method is used for making only two or three loops for a large stick-up, or for any series of loops. If the series of loops is to form a rosette, the length of loops is twisted circularly and caught with a thread. Some bows are made of ribbon wired and glued together to give the effect of a bow.

One can practice bow-making with paper, old ribbon, or a strip of narrow cloth. Some bows need wire tacked on the inside to hold them erect.

Method of Affixing Trimmings

Formerly all trimming was sewn to the hat, but now there are a number of kinds of "Milliner's Glue," or cement, which is used a great deal in fastening flowers, ribbons, etc., to the hat. These liquids must resist moisture, not injure the materials, be permanent, and have a strong adhesive power.

Often trimmings are attached to the hat by slipping them through slits in the hat itself.

Linings

Mercerized materials and China and taffeta silks

are generally used for hat linings. These are of two styles. One style is drawn up in the center by a thread or tape and fastened to the apex of the crown. The other fitted style is very much like the linings in men's hats; it is in two pieces, one placed flat on the inside of the crown, the other placed around the sides of the crown and attached to the other piece. Linings should be put in slightly above the base of the crown so as not to show.

Maline is used for lining transparent hats. Satin and ribbon are now used also. Linings usually match the hat in color.

Some workrooms buy linings all ready to sew in, and it takes a skilful girl between a minute and a half and four minutes to sew one in.

Freshening and Cleaning

Customers will appreciate information upon the care and cleaning of millinery. The saleswoman should be able to tell her some ways of doing this at home.

To freshen velvet and to take out the creases, it is steamed. A good method for the amateur is to run it back and forth over the open top or spout of a kettle of boiling water. Pressing velvet on the surface with a hot iron lays the nap flat and makes a glossy panne velvet effect. If the nap is not to be laid flat it must not be ironed on the right side except with a cool iron.

Straw hats may be cleaned with a good soap and warm water, then bleached, stuffed with coarse paper to restore the shape, and dried in the sun. This method gives a cream-white result. A dead white is obtained by the use of oxalic acid, but this is not good for the straw. Lemon juice is a good bleach for hats. A faded colored straw may be improved with a fresh coat of shellac polish made for the purpose. The way in which hats are put away has a great deal to do with their preservation and fresh appearance. It preserves the shape of a hat to put it on a form, or pin it up by the inside, so that the brim is not allowed to support it.

The curling of feathers is rather difficult as an amateur is apt to break the flues. Several flues are pulled together between the thumb and the back of the knife; this process is repeated until the flues are sufficiently curled.

Although bleaching feathers requires chemical knowledge, white feathers that are soiled and yellow may be improved immensely by scrubbing them with castile soap and warm water, and after rinsing dyeing them the faintest blue.

Feathers may be dyed in the lighter shades by following the methods adopted by professional dyers as given in Chapter VIII. About two-thirds of a teaspoonful of either formic or oxalic acid in a pint of water will set the dye for one or two feathers.

Chapter XVI

SUGGESTIONS TO SALESPEOPLE

What the Customer Is Wearing

The skilful salesperson notices a customer as she approaches and besides being ready with a pleasant, alert look and a greeting, if it seems acceptable, observes what the customer is wearing, whether it is becoming, what color and kind of hat she has on, whether it goes well with her clothes, and her general type of face and figure. She does not stop this mental observation when she begins talking to the customer; but she needs to be alert and to continue her observations while the customer is standing at the counter. Perhaps it is the courteous practice in your department for you to meet the customers as they come in. A look of greeting serves as well as spoken words and since some customers object to being spoken to, a cordial appearance of attention will invite them to speak if they so desire.

Visiting Among Salespeople

It is disconcerting and makes a customer feel unwel-

come to enter and find the salespeople idly talking among themselves and paying no attention to her.

Do you not think that in most cases this visiting among the salespeople, especially noticeable on dull days, and a practice which every manager objects to, is due to a lack of ambition and intelligent interest on their part? There are so many things they might do! There is no lack of opportunity for study in this department. They might be studying materials, straws, color, form, trying trimmings on hats, and even learning how to talk more effectively to the customers.

Learning to Talk About Hats

How many different words do you think can be found to describe a certain hat? If several salespeople try to think of every possible good expression, beginning with each letter of the alphabet in turn, the number of words to be found is remarkable. For instance, each person suggests a word beginning with "a" which will describe a chosen hat, and this search for words keeps going around the circle till no more can be found beginning with "a" and then "b" is taken up. Each word is put down on a paper and the result counted.

Such a game will help the salespeople to avoid the common, poor, everyday expressions which have been so overworked and abused that often they even offend

customers. It is not necessary to cite them. "Sweet," "dear," "dressy," "stunning," "little," are some of them, and there are dozens of others.

Trade Papers and Home Study

A chance for interesting reading and study is to be found in the magazines and papers which the manager of the department takes. He is always very willing to loan them to interested people.

A great number of salespeople as well as buyers subscribe personally to a good department store paper, which contains items of interest for every department. Even if only one idea is obtained from an article, it is worth while to read it.

Factory Visiting

In certain cities it may be possible for the salespeople to arrange to visit some factories that produce articles in their line. Many managers would be only too glad to take the salespeople if they are interested, and nothing could be more instructive and helpful than these trips.

The Care of Stock

Perhaps one of the most important and least recognized opportunities to study merchandise lies in the daily care of stock. Simple dusting, rearranging, and inspection may seem a homely task, but it affords a

splendid chance to handle, examine, and become intimately familiar with every kind of merchandise in the department. It affords an opportunity to learn prices, and this knowledge may afterwards be helpful in making a sale. While a good stock-keeper may not be a merchandise expert, an expert in merchandise is always a good stock-keeper.

The duty of caring for the stock should not be done listlessly and carelessly, but intelligently, with every faculty awake to the opportunity of learning the goods. In addition, good stock-keeping is of the utmost importance to the ambitious saleswoman, for by the personal attention she gives it she can keep her stock in the freshest and most salable condition, and thereby avoid the handicap of soiled or damaged merchandise.

Such care helps to prevent accumulations of slow-moving merchandise and the consequent losses through reductions or mark-downs. An expert stock-keeper is often invaluable to her manager, and frequently draws a higher salary than a co-worker who sells more, but does not keep her stock as though it were her own treasured personal possession.

Seating the Customer

Care in seating a customer comfortably before a mirror is a very important factor in making a sale.

Fatigue leads to indecision and many women leave without buying just because they are tired.

Careful Selection of Stock

After your customer is seated, bring her well-selected hats to try on. It makes a good impression to know your prices accurately; so if you do not know the price of a hat, it is well to glance at the price ticket without being observed by the customer. It may not be necessary to show many hats if they are well chosen. The salesperson with taste and judgment can suit her patrons very easily. How many times do you sell a customer the very first hat you show her? Do you know what is the proportion of your sales to the number of people whom you approach?

It is well to keep a record of this for a time and to note how your percentage increases with study. The percentage of the persons entering a certain department to whom sales were made has been known to increase in three weeks from 52 to 90 per cent when the salespeople were studying their merchandise and the proper methods of salesmanship.

Customers Who Are "Just Looking"

It is of course discouraging to have a woman say she is "just looking." But why does she say it? In most cases because she was not met in the most tactful way.

She was probably asked a foolish question that meant little, such as, "Are you looking for a hat?" or "Something in hats?" which forced her to reply in that way. She has come with an interest in hats or she would not be there. Yet she did not want to place herself in a position where she might be made to buy or to admit that she might buy, so she said she was "just looking."

In some departments such an expression perhaps might pass with the salespeople, but as you know it does little good to "just look" at hats. They must be tried on and fitted to the customer before anything definite can be decided about them. It would take too powerful an imagination to picture how the hat off the head would look on it.

No person, therefore, who enters the department should be allowed to "just look" at hats without a tactful word. If she does not realize the necessity of trying on a hat to find out whether she likes it or not, she should be tactfully taught. For instance, the salesperson might say, "It is hard to tell how a hat looks until it is on the head. I should be glad to help you by fitting you even if you do not wish to buy."

Even though the customer says she does not intend to buy, the wise salesperson should be willing and ready to fit her, and by this method will often make a sale.

Avoiding Questions

It is of the first importance that the customer should not be antagonized by the questions that are so often asked her. The best way is to ask her to be seated and to begin to show her merchandise with as few direct questions as possible.

Every question that you can avoid asking is a point gained. Questions create antagonism and weariness and if you can find out your customer's ideas about price, size, shape, color, etc., without asking a single direct question, you will find your sales and your clientele increasing.

Show her the hats your studies tell you are the best suited to her, and from her comments gather all her ideas about hats. Follow the hints she gives you, and the customer herself will guide you to a successful sale.

Judging a Customer by Her Dress

It is a fatal mistake to assume that a plainly dressed woman will not pay a high price for something that pleases her. Simple dressing is often the mark of refinement and good taste, and the most fashionable people are apt to dress simply and plainly. Many extremely wealthy women pride themselves upon the simplicity of the clothes in which they shop. Sometimes they purposely shop in plain clothes to avoid oversolicitations to purchase, but, if they are pleased, there

is no limit to the amount they can and will spend.

Aside from the unexpected rewards that sometimes come through attentions to even shabbily dressed people, it is no more than simple kindness to show the poor as much consideration as the rich. The American spirit of democracy, as well as good sense and good service, requires it.

When the Customer Leaves Without Buying

If a customer departs without buying, no unpleasant impression should be left on her mind to prevent her return at another time. She should not be made to feel that she has wasted the time of the salesperson or that the latter is the least bit disappointed. Even more courtesy should be shown such a customer than if she had already bought a hat, because she still has a hat to buy and on thinking it over may return to purchase. Some departments make it so unpleasant for a customer who does not purchase that she never returns under any circumstances.

If the customer goes away, saying that she wants to look elsewhere, agree with her pleasantly, but try to impress her mind so powerfully with the beauty and becoming effect of some well-selected hat which you have shown her that she will remember and return for it. If you make the mental picture of the hat vivid enough, she is sure to remember it and nothing she sees

elsewhere will put it out of her mind. The old saying, "Distance lends enchantment," applies to her remembrance of the hat and she will not be happy until she possesses it.

Fitness to Meet a Customer

Before a saleswoman is ready to meet her customer on the floor, she must possess a wide and accurate fund of knowledge in regard to her merchandise. She must be dressed in the proper costume for a business woman in order to prove her own good taste and to look appropriately gowned. She must be physically well and fit, as a result of intelligent care of her health. She must be prepared to conduct the sale in accordance with the rules of successful selling.

In Chapter XVIII is given a classification of the stock of a typical Millinery Department. This classification gives an outline of the information upon the stock which every saleswoman should possess before she is really ready to meet a customer.

The following outline gives the specific steps to follow in the average sale from the time the customer first appears until she leaves the department.

STEPS IN A SALE IN A MILLINERY DEPARTMENT

1. Be ready for the customer.
   (a) Wear a business dress,
   (b) Feel well, alert, attentive.

2. Begin to study her the moment your eyes rest upon her. Observe her closely as she approaches. Meet her with a pleasant greeting.

3. Seat her and bring her a few hats that you know through your studies are the most becoming to her type. Be guided by the hints she gives you. Do not ask questions. Try to get her opinion, *not* to make her agree with you. Do not argue.

4. Take anything she dislikes out of her sight, and don't try to press on her what you like and she does not. The fewer hats she has finally to decide upon, the better. Eliminate the less becoming ones.

5. Close the sale pleasantly, see that she is not delayed longer than necessary. Be sure to take her name and address correctly, invite her to return, and suggest something which is on sale in another part of the store. Do not leave her unoccupied if it is necessary for her to wait for check, change, or package, but bring to her notice something of interest. Do not, however, show her any hat that might upset the sale you have already made.

If you will check over your knowledge and abilities by these outlines, and if you can honestly grade yourself well on each point, you may consider yourself an efficient saleswoman, and your increasing sales and salary will prove it.

Chapter XVII

HAT-MAKING AT HOME

The Economy and Pleasure of Making Hats

An additional few points will be useful to those who wish to trim their hats at home. There is much to be said for making hats at home whether or not one does it as a matter of economy. One can save from half to all the cost of a new ready-trimmed hat by using old materials and freshening them up, or new materials on hand, such as remnants, etc. The creative work itself is a pleasure to most women. Girls have been heard to say, "I'd rather make a hat than eat." Sometimes a club of girls can get together to make their own hats, having a buyer for the club to purchase at wholesale rates. The sum total of their experience and taste produces lovely hats.

The individual not only can save greatly by making her own hats, but can have many more, match them better with her clothes, and learn to make them more becoming and better suited to her than the hats she might chance to buy. Many people whom one sees on the street are wearing unbecoming hats, or at least, those that are not the most becoming. Some get so

tired of looking that they buy recklessly, some are overpersuaded by the saleswoman, and some have not a cultivated taste.

If a woman is able to alter the hats she buys and adapt them to her own style when necessary, she can make them more individual and becoming. Then too, a winter hat of good style can be turned into a summer one, and vice versa. Perhaps the change made by covering the straw crown with velvet or silk, or a different trimming will do the trick. From every point of view it is advisable for one to learn how to make hats.

Observation the First Essential

The first step in making a hat at home, if one does not know exactly how one wishes to make it, is to leave home and go "window shopping" and also to look through the millinery departments in the stores. It is well to do this in order to be strictly up to date and to study the detail in vogue at the time, even though one does have in mind before starting an image of the result desired. Fashion varies somewhat from year to year even in the matter of putting a hat together, but an observant person may learn all of fashion's changes. In looking at hats it is well to know and apply the principles contained in the chapters on color and form.

The easiest method of trimming a hat and also the most expensive is to buy a shape that is becoming and trim it with new materials. These can be tried on at the store and pinned into place to get the effect. The saleswomen are often very helpful.

Covering the Frame

It is more difficult to cover the frame. Whoever trims her hats will soon pass from the easy work of putting trimming on a ready body hat to the interesting task of making the complete hat. Cutting the material is the most important thing. If it is bought on a bias there must be more of it. A turn-up or drooping brim is usually covered with material on the bias, unless it is of very sheer material and a soft gathered effect at the base of the crown is desired. Instead of buying a new frame the beginner may well take an old hat, if in good style, rip it to pieces, and use the old covering as a pattern. Another advantage of ripping up an old hat is that is shows just how much goods to buy. A straight brim is simple, being just a circle with a hole in the center. Two such circles for the upper and under sides of the brim can sometimes be stitched together on the sewing machine. The seam is then turned inside.

Wire or crinolin shapes can be bought. The frame should sit easily upon the head. If, however, a shape

is too large, by the use of a little padding or a bandeau it can be made to fit. The covering of a frame has to be painstakingly done, as nothing shows up so much as uneven work or rough edges. It is a good rule never to let a stitch show, except in embroidery. A long strong needle is best, with strong coarse linen thread for most of the work. Unless the goods is quite smooth, it should be pressed beforehand. Old velvet can be steamed as directed in Chapter XV.

The Trimming

Pin the trimming on first, putting everything in place, then try the hat on, and change the trimming about to find the most becoming effect. Perhaps some trimming will have to be discarded or changed for something else. Try it with the costume with which it is to be worn.

The Lining

Hat linings can be bought, in white or black. Home-made linings can be cut on the pattern of any old well-fitting lining, and can be made to match the hat. If the crown is transparent, the lining may be left out, or a colored lining can be used as a trimming for the hat.

Clubs for Hat-Making

It is nice for a club of girls to buy one of the

inexpensive little embroidering machines which are now extensively sold. They do neat, quick work. A club can also buy braids in large amounts very much cheaper than at retail.

Colored Hats

If one wishes to have a hat to match a costume, it is pretty to use left over pieces of the gown. A summer hat can combine the materials of several dresses, if they happen to go together, and so be suitable to wear with all of them. It is well to have a black hat always in one's wardrobe, as it goes with everything.

Hat dyes are good but are very apt to shrink the hat. If a piece of paper or cloth is laid on the head of the wearer first, and then the wet hat put on, the dye will not come off on the hair, the hat will dry to fit the head exactly, and will not shrink. It dries rapidly, in 20 or 30 minutes. Hat shellac will freshen up old straws. Milliners' glue is useful for some kinds of trimming, but the average person does not have it.

Reblocking

Reblocking of hats that have lost their shape or need to be changed somewhat is done at many little hat repair shops, but some adventurous girls reblock

their own hats by fitting them wet over a bowl and using flatirons to hold them down.

Magazine Helps

There are several millinery magazines as well as sections in *Vogue,* the *Ladies Home Journal, Vanity Fair, Woman's Home Companion,* and others, which may be helpful to the hat-maker. Many people, to whom the intricacies of fitting a dress are unknown, can trim their own hats, and it is not at all bold to attempt it with the hints that have been given in this book.

Chapter XVIII

CLASSIFICATION OF STOCK OF A TYPICAL MILLINERY DEPARTMENT

DIVISIONS

A. Trimmed Hats
B. Untrimmed Hats
C. Trimmings
D. Workroom Supplies

A — TRIMMED HATS

1. Materials

(a) Straw

Tuscan
Leghorn
Milan
Patent Milan
Liséré
Split
Hemp
Milan Hemp
Imitation Hemp
Chip
Yedda
Ramie
Panama (Genuine and Imitation)
Wenchow
Bamboo
Buri

Kalasio
Buntal
Pandan

(b) Felt
Wool
Fur
Cotton

(c) Fabrics
Velvet
Hatter's Plush
Velour
Chenille
Silk
Satin
Chiffon
Net
Tulle
Maline
Lace
Georgette Crêpe
Linen

(d) Fur
Seal
Raccoon
Mink
Beaver
Squirrel

(e) Miscellaneous
Angora Braid
Horsehair Braid
Pyroxylin Braid

2. Shapes
Rolled brim
Straight brim

Sailor
Mushroom
Tricorn
Turban
Toque
Picture hats
Gainsboro

3. Colors
All

B — UNTRIMMED HATS
Materials, Shapes, Colors much the same as in trimmed hats

C — TRIMMINGS
1. Feathers and Plumage
(a) Kinds
Ostrich
Vulture
Paradise
Numadie
Gourah
Heron
Egret
Peacock
Pheasant
Parrot
Guinea-fowl
Pigeon
Goose
Duck
Turkey
Barnyard Fowl
Spanish Coq
Burnt Goose
Marabou

(b) Forms
- Aigrettes
- Wings
- Breasts
- Pads
- Bands
- Pompons
- Quills
- Plumes
- Tips

(c) Colors
- Natural
- Dyed
- Bleached

2. Flowers and Foliage

(a) Kinds
- Roses
- Field Flowers
- Appliqué Flowers
- Violets
- Small Flowers
- Odd Flowers
- Rare Flowers
- Natural Flowers
- Foliage
- Fruits

(b) Materials
- Silk
- Satin
- Velvet
- Velveteen
- Muslin
- Tinsel Cloth
- Ribbon

Chenille
Leather
Celluloid
Straw
Feathers

3. Ribbons
   (a) Kinds
      Grosgrain
      Faille
      Taffeta
      Georgette
      Moiré
      Cire
      Satin (Plain and Double-Faced)
      Velvet
      Crêpe
      Metallic
   (b) Widths
      No. 1 — 14 in.
   (c) Uses
      Bands
      Cockades
      Bows
      Plaitings
      Shirrings

4. Ornaments
   (a) Kinds
      Cabochons
      Pins
      Buckles
      Slides
      Novelties
      Veils

Beads
Worsted
Chenille
Embroidery
Bands
Motifs
Emblems
Painting

(b) Materials
Jet
Steel
Rhinestones
Mother-of-pearl
Glass
Braid
Silver
Gilt
Net
Maline
Velvet
Worsted

5. Lace

D — Workroom

1. Supplies
Willow
Buckram
Wire
Needles
Thread
Linings

Appendix

Books for Reference

The World's Commercial Products, Freeman & Chandler. Ginn.
Textiles, Woolman and McGowan. Macmillan.
Shelter and Clothing, Kinne & Cooley. Macmillan.
Color Harmony in Dress, G. A. Audsley. McBride, Nast & Co.
The Principles of Harmony and Contrast of Color, M. E. Chevreul. G. Bell & Sons (London).
Dyes and Dyeing, C. E. Pellew. McBride, Nast & Co.
Millinery Trade Review.
Textile World Record.
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Modern Drapery and Allied Trades.

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